

Medical

THE JOURNAL OF GENERAL PRACTICE

EXCLUSIVE
REPORT
FROM HUNGARY

Medicine Behind The "Curtain"

- Hypnosis
- Emotional Aspects of Cardiovascular Disease
- Management of Hallux Valgus
- "Mood" Therapy in the Aged
- Schistosomiasis
- Erythroblastosis Fetalis (Refresher)
- Hypertension
- Forcope Deliveries
- The Physician and the Law
- Zygomatic Bone Fractures (Office Surgery)
- Editorials
- Guest Editorial
- Investments
 - Drugs on the Market
 - Ten Biggest Business Stories of '66
 - Ten Stocks for Investment
 - Outlook for Bonds
 - Tobacco Stocks and Health





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BPA

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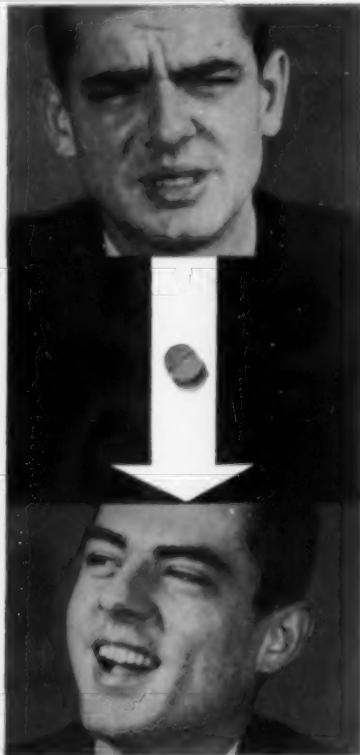
1. J.A.M.A., 189:646 (Oct. 15) 1965.
2. J.A.M.A., 189:390 (June 6) 1965.



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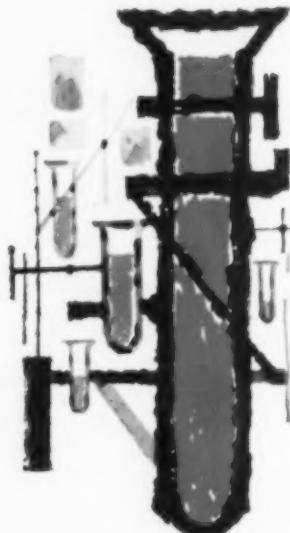
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Medical TIMES

THE JOURNAL OF GENERAL PRACTICE

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to improve
respiration in cardiac
decompensation

C I B A

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Also available for
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Ampuls., 1.5 ml.
and 5 ml.;
Multiple-dose Vials,
20 ml.

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Coramine is a proved respiratory and central nervous system stimulant, useful in controlling Cheyne-Stokes respiration and paroxysmal dyspnea associated with cardiac decompensation.

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Since Coramine is rapidly and completely absorbed from the gastrointestinal tract, the Oral Solution (3 to 5 ml., three to five times a day) may be administered in cases of chronic cardiac decompensation or in convalescence following acute coronary occlusion.



Off the Record . . .

True Stories From Our Readers

Each incident described has been contributed by one of our readers. Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported German apothecary jar will be sent in appreciation for each accepted contribution.

What Flavor?

When my son, who is now in medical school, was very small, he asked me with a great deal of concern while I was dressing one day, "Daddy, you do not have any milk in your breasts, do you?"

I stated that this was true. He further asked, "You never have had any, have you?" This was also confirmed.

He then stated, "When I was a baby, Mother had milk in one of her breasts." This statement surprised me and I asked, "What did she have in the other one?"

He, in turn, looked quite surprised that I did not know and answered with confidence, "Orange juice."

I had to have a talk with my wife about deceiving our child.

G. G., M.D.
Birmingham, Ala.

Oops!

I was taken unaware, when a prudish little woman without blinking an eyelash asked me, "Dr., what kind of milk makes a girl raise her dress and a boy drop

his pants?" I had to plead ignorance and with a laugh came, "Milk of Magnesia."

S. W., M.D.
Pittsburgh, Pa

No Specialists!

A cocky middle-aged "new" patient came into my office for treatment. After fifteen minutes of: "I never had pressure like . . ."; "Are you sure the liver is on the right side?"; etc., I was pretty much fed up and suggested she might best go to a veterinarian. Her answer was, "I don't want to use a specialist, I'd rather use you!"

M. K., M.D.
Brooklyn, N. Y.

We Lose More Instruments That Way!

In the course of a busy day and while working more than one examining room, I had almost completed a pelvic examination when I was interrupted and had to leave the patient situated as she

—Concluded on page 19a

TRUE ANTICHOLINERGIC ACTION

Pro-Banthīne Inhibits Excess Parasympathetic Stimuli in Peptic Ulcer

Medical literature now contains more than 500 references to the beneficial role of Pro-Banthīne® Bromide (brand of propantheline bromide) and Banthīne® Bromide (brand of methantheline bromide) as evidenced by a marked healing response of peptic ulcers. Rapid symptomatic improvement, particularly with reference to pain relief, is followed by roentgenographic demonstration of crater filling.

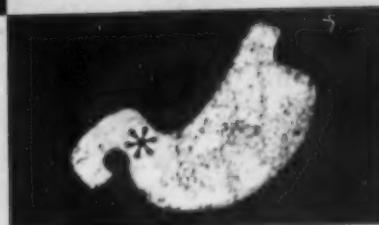
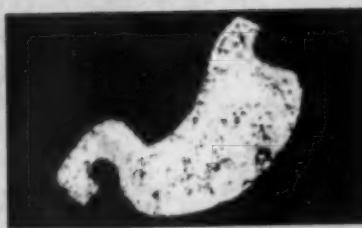
The therapeutic action of Pro-Banthīne in decreasing hypermotil-

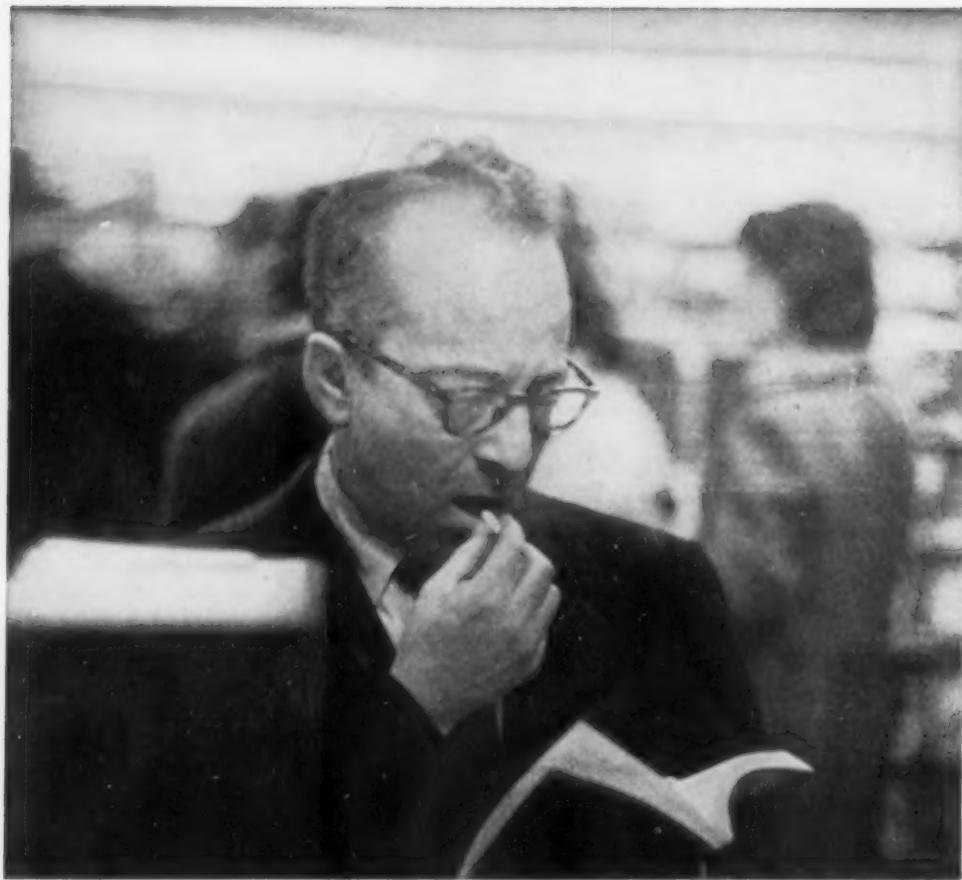
ity and hyperacidity, together with the remarkable early subjective benefit, is a desired approach in ulcer management.

The initial suggested dosage is one tablet, 15 mg., with meals and two tablets at bedtime. An increased dosage may be necessary for severe manifestations and then two or more tablets four times a day may be indicated.

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Metandren® (methyltestosterone U.S.P. CIBA) Linguets® (tablets for mucosal absorption CIBA), 5 mg. (white, scored) and 10 mg. (yellow, scored).

C I B A
SUMMIT, N. J.

OFF THE RECORD

—Concluded from page 15a

was at the time. When I returned to her room, I told her she could get up from the table and dress. I noticed a startled look on her face. When she asked how long she would have to wear "this thing," it dawned upon me that the vaginal speculum was still in place.

Anonymous

Situs, Inversus and Innocuous

A ponderous, expansive female patient of mine was being treated for cervicitis uteri with profuse vaginal discharge and irritation. Among the indicated therapy, floraquin tablets to be used after vinegar douche were prescribed for her.

In a week she returned ebullient and thoroughly pleased saying, "Doctor, them big tablets didn't taste so good, but they sure did the work."

Since that experience, I have learned again never to take anything for granted in writing prescriptions even though the human body frequently can withstand the severest insults.

W.T.L., M.D.
Detroit, Mich.

Embarrassing Moment

In my first year or two of general practice when home deliveries were still in style, I was waiting out a very slow primiporous labor. It was a warm, dark night, and about 2 a.m. I took a little stroll outside. The patient's father approached me in the darkness thinking I was one of the other adult male members of the family and very seriously asked the question, "Do you think that

d--- fool in there knows what he is doing?"

I've never forgotten the incident.

H.J.D., M.D.
Grand Rapids, Mich.

How Did This Happen?

A thirty-five-year-old female complained of urinary frequency. She was a divorcee of seven years, and when asked if she had had intercourse since the divorce, replied no.

Examination revealed a tremendous uterine tumor, and x-ray with a possible operation was advised. X-ray revealed a 7½-month developed fetus.

When shown the x-ray and advised of the situation, the patient said, "We never had intercourse; we always used a contraceptive."

H.G., M.D.
Lynn, Mass.

Get With It, Doc!

Many years ago, as a young general practitioner, I was sent to deliver a baby in one of our poorer sections, by the local city physicians office.

On entering, a city nurse was already present. I requested her to get the patient ready for a rectal examination.

As soon as I had completed the rectal examination, the mother-to-be sat up in bed and exclaimed, "Get that young doctor out of here; he don't even know how babies come out."

It took a lot of explaining before I was permitted to deliver her baby.

E.J.S., M.D.
Detroit, Mich.

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SPARINE is a well-tolerated and dependable agent when used according to directions. It may be administered intravenously, intramuscularly, or orally.

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Professional literature available upon request.

1. Figurelli, F.A.: *Indust. Med. & Surg.* 25:376 (Aug.) 1956.

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—particularly for that 90%
of the patient population
treated in home or office
where sensitivity testing
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for your
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100% EFFECTIVE in respiratory infections including the 25% due to resistant staphylococci.¹⁻³

97% EFFECTIVE in dermatologic and mixed soft tissue infections including the 22% resistant to one or more antibiotics.³⁻⁶

94.6% EFFECTIVE in genitourinary infections including the 61% resistant to other antibiotic therapy.^{2,5}

93% EFFECTIVE in diverse infections including the 21% due to resistant pathogens.^{1,6}

98.7% EFFECTIVE in tropical infections including those complicated by heavy bacterial contamination or multiple parasitisms.⁷

the antimicrobial spectrum of tetracycline extended and potentiated with oleandomycin (Matromycin) to combat resistant strains of pathogens—particularly resistant staphylococci—and to delay or prevent the emergence of new antibiotic-resistant strains.

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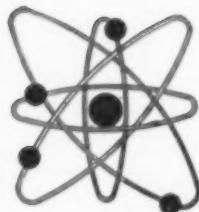


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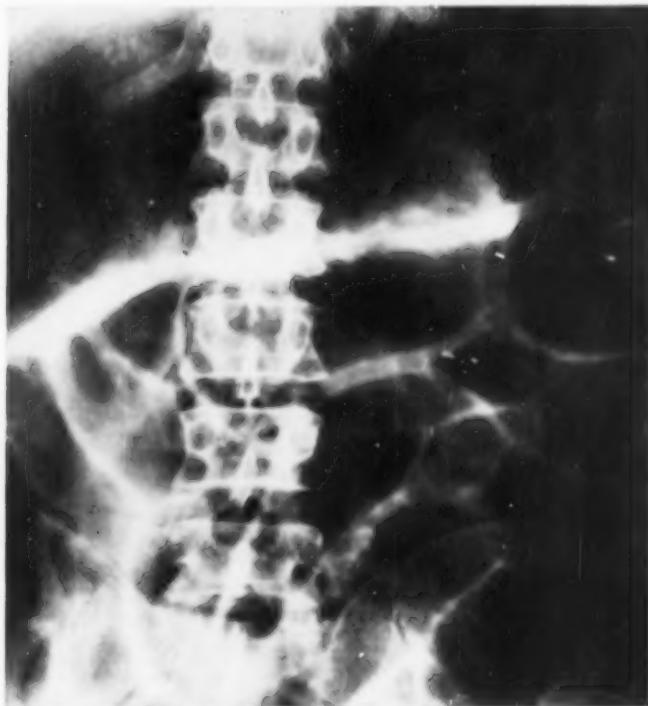
Diagnosis, Please!

Edited by Maxwell H. Poppel, M.D., F.A.C.R., Professor of Radiology,
New York University College of Medicine and Director of Radiology, Bellevue Hospital Center

WHICH IS YOUR DIAGNOSIS?

1. Mechanical obstruction
2. Ileus
3. Normal

(Answer on page 156a)



A "sense of well-being" is an added benefit in "Premarin" therapy



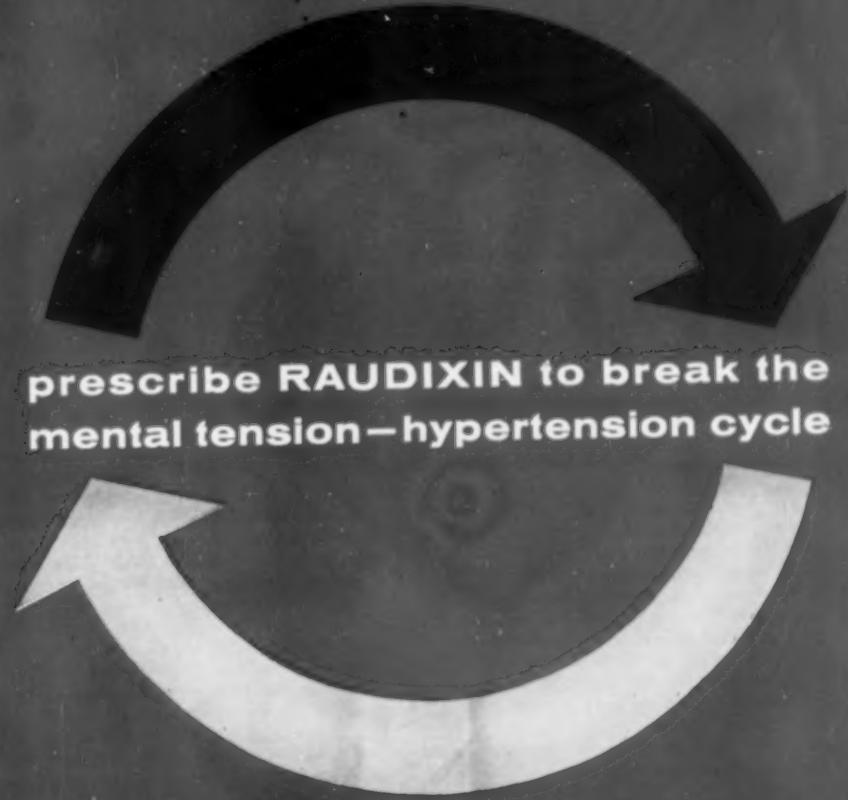
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**in the menopause and
the pre- and postmenopausal syndrome**





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mental tension—hypertension cycle**

***Raudixin reduces mental tension**

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***Raudixin reduces hypertension**

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**DOXOL NORMALIZES EVACUATION BY
NORMALIZING STOOL CONSISTENCY**

*Spierman, M. G., Malow, L.: *Journal Lancet* 76:164 (June) 1956.

BLAIR LABORATORIES, INC.
SHORT HILLS, NEW JERSEY

MEDICAL TIMES



Coroners' Corner

The Corpse That Sat Up

The word "chiller-diller" has been used mainly by the "who-dunnit" coterie, but it is occasionally applicable to a Medical Examiner's experience.

My small town used to have a one-man police force who never liked to be involved in any situation that meant his having to handle a corpse. In fact, whenever we were called upon to investigate a missing person, he always made me go into the house first.

One bitter cold night in February we received a call that an old lady who lived alone on a farm had not been seen for three days. It was snowing when we reached the house and there was no sign of life therein. The back door was locked, so we jimmied it open. As usual I went in first. The kitchen stove was stone-cold, and the house like an icebox. My police escort stayed close behind me with a flash-light while I searched the downstairs rooms. Suddenly a cat scurried between the constable's legs and did little to calm the poor fellow's nerves.

Finally I found a small, icy-cold bed room at the foot of the stairs, and there, lying in bed, covered only by a sheet, was the object of our search. Her eyes were fixed, staring at the ceiling. I approached her slowly, and as I pulled the sheet down to examine the body, she suddenly sat up in bed! I turned quickly to speak to my companion, but he was nowhere to be seen.

I knew that the woman was almost totally deaf, so I had to lean over and shout into her ear.

"Who be yur?", she screamed.

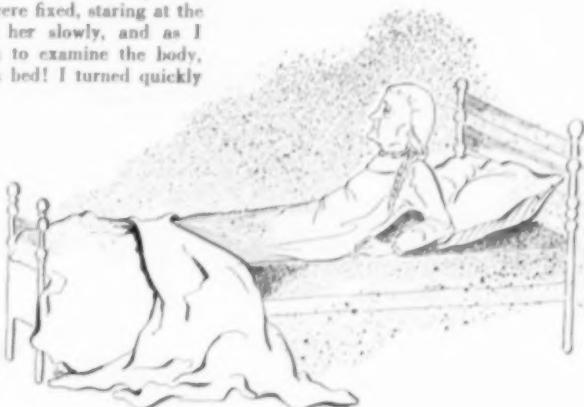
"Dr. B . . . , the Medical Examiner", I answered.

"Never heard of yur. How did yuh git in here? Can't a body go to bed in peace if she has a cold?"

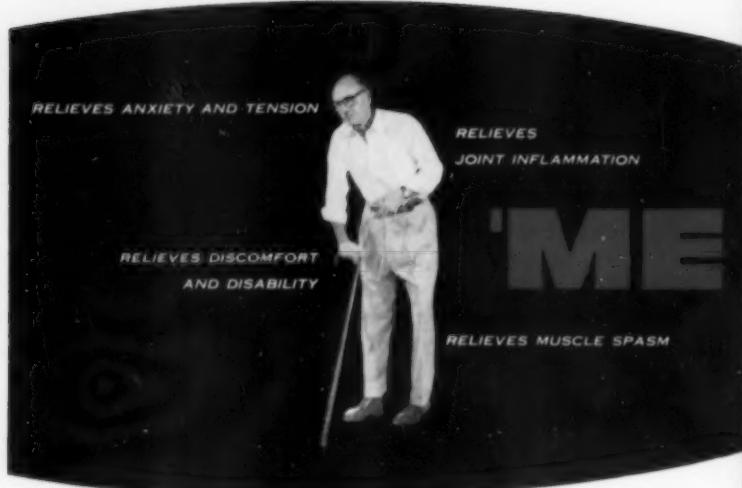
I thought of the jimmied door and the intrusion upon the poor woman's privacy, and I wished that I were somewhere else. Fortunately I remembered that I had in my pocket some cold tablets that I had been taking myself that day. Turning on my best bedside manner, I assured her that I had come to help her, and gave her the tablets, as if they were her special prescription. She seemed satisfied, and as she settled back for a long winter's nap, I bowed out thankfully, if not gracefully.

Back in town, it took some hard talking to convince my police escort that the corpse from whom he had so heroically escaped would be up and about in a day or two, as healthy as ever.

R. H. B., M.D.
6 South Street
Marion, Massachusetts.



NEW...



Each Multiple Compressed Tablet of MEPROLONE provides the inseparable antiarthritic, antirheumatic benefits of:

1. *Prednisolone buffered*—the newest and most potent of the "predni-steroids" for prompt relief of joint pain and arrest of the destructive inflammatory process.

2. *Meprobamate*—the newest and safest of the muscle-relaxant tranquilizers for profound relaxation of skeletal muscle in spasm.

Tolerance to this combination is good because there is little likelihood of sodium retention, potassium depletion or gastric distress with buffered prednisolone, and meprobamate rarely produces significant side effects in therapeutic dosage.

An additional important therapeutic benefit, often overlooked, stems from the tranquilizing action of meprobamate. This component of MEPROLONE relieves mental tension and anxiety so often manifest in arthritics, making them more amenable to other rehabilitation measures.

INDICATIONS: A wide variety of conditions, in which four symptoms predominate: a) inflammation b) muscle spasm c) anxiety and tension d) discomfort and disability, i.e., rheumatoid

Therapeutic benefits of MEPROLONE compared with traditional antiarthritics.

	relieves pain	suppresses inflammation	relaxes muscle	eases anxiety	imparts sense of well being
Salicylates	✓	✓			
Muscle relaxants			✓		
Tranquilizers					✓
Steroids	✓	✓			✓
MEPROLONE	✓	✓	✓	✓	✓

I. Meprobamate is the only tranquilizer with muscle-relaxant action.

arthritis, rheumatoid spondylitis (Marie-Strümpell disease), Still's disease, psoriatic arthritis, osteoarthritis, bursitis, synovitis, tenosynovitis, myositis, fibrositis, fibromyositis, neuritis, acute and chronic low back pain, acute and chronic primary and secondary fibrositis and torticollis, intractable asthma, respiratory allergies, allergic and inflammatory eye and skin disorders (as maintenance therapy in disseminated lupus erythematosus, periarthritis nodosa, dermatomyositis and scleroderma).

SUPPLIED: Multiple Compressed Tablets in bottles of 100 in two formulas as follows: MEPROLONE-1—1.0 mg. of prednisolone, 200 mg. of meprobamate and 200 mg. of dried aluminum hydroxide gel. MEPROLONE-2—provides 2.0 mg. of prednisolone in the same formula.

NO OTHER
ANTIRHEUMATIC
PRODUCT
PROVIDES AS MANY
BENEFITS AS

PROLONE[®]

MERPRO | BAMATE
PREDNISO LONE, buffered

THE ONLY
ANTIRHEUMATIC,
ANTIARTHRITIC
THAT SIMULTANEOUSLY
RELIEVES:

1. MUSCLE SPASM
2. JOINT INFLAMMATION
3. ANXIETY AND TENSION
4. DISCOMFORT
AND DISABILITY



MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

MERPRO/OMT is a trademark of Merck & Co., Inc.

Rauwiloid®

A Better Antihypertensive

. . . because among all Rauwolfia preparations Rauwiloid (alseroxylon) is maximally effective and maximally safe . . . because least dosage adjustment is necessary . . . because the incidence of depression is less . . . because up to 80% of patients with mild labile hypertension and many with more severe forms respond to Rauwiloid alone.

A Better Tranquilizer, too

. . . because Rauwiloid's *nonsoporific* sedative action relieves anxiety in a long list of unrelated diseases not necessarily associated with hypertension . . . without masking of symptoms . . . without impairing intellectual or psychomotor efficiency.

Dosage: Simply two 2 mg. tablets at bedtime.
After full effect one tablet suffices.

Best first step when more potent drugs are needed

Rauwiloid is recognized as basal medication in all grades and types of hypertension. In combination with more potent agents it proves synergistic or potentiating, making smaller dosage effective and freer from side actions.

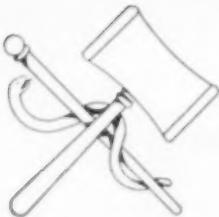
Rauwiloid®+Veriloid®

In moderate to severe hypertension this single-tablet combination permits long-term therapy with dependably stable response. Each tablet contains 1 mg. Rauwiloid and 3 mg. Veriloid. Initial dose, 1 tablet t.i.d., p.c.

Rauwiloid®+ Hexamethonium

In severe, otherwise intractable hypertension this single-tablet combination provides smoother, less erratic response to hexamethonium. Each tablet contains 1 mg. Rauwiloid and 250 mg. hexamethonium chloride dihydrate. Initial dose, $\frac{1}{2}$ tablet q.i.d.

Riker LOS ANGELES



What's Your Verdict?

Edited by Ann Picinich, Member of the Bar of New Jersey

Should the Court enjoin the publication and distribution of a medical book because its contents are unfavorable to a new drug to be used in the treatment of cancer?

This was the question before the court in an action brought by a cancer research foundation and several physicians interested in the development of the drug against the publishing company. The drug was admittedly still in its experimental stage, and its therapeutic merits had yet to be established in the United States.

Counsel for the plaintiffs contends thus:

The author has written a book which is in its whole tenor false, and which the author knows to be false. For instance, the author knows that his suggestions of non-professional reliance by the physicians on paid testimonials from patients are false. Nevertheless, if the book is published, it will tend to injure the good name and reputation of the physicians as doctors and scientists. Furthermore, it will destroy the commercial value of the drug, and impede its progress and further clinical investigation.

For these reasons, the court should enjoin the publisher from further progress on the publication of this book. What value can there be in allowing people to read false statements?

Counsel for the defendant publishing company makes this response:

The establishment of the truth about a new drug is critically important to the public. If it is a cure it will be one of the great discoveries of modern times; if it is of value in some cases only the limitations are important; if it is of no value disappointment can be avoided by establishment of that



fact. If there are aspects of the investigation of the drug which do not meet with accepted standards, knowledge of that fact will assist medical advisors in appraising the drug.

A court cannot censor the reading material of the public because a book may contain some false statements. This would amount to an unconstitutional interference with the freedom of the press.

How would you decide?

(Verdict on page 114a)

for every cough in the family

CORICIDIN SYRUP

adds cold relief to cough control

Next time you treat a family down with colds and cough, prescribe CORICIDIN Syrup all around. Adults as well as children like its delightful flavor, and it brings all-round relief, too...

the cough... Both throat "tickle" and cough are relieved by CORICIDIN Syrup through its suppressive, decongestant and expectorant action.

the cold... Sneezing, nasal discharge and other allergy-like symptoms of a cold are soon cleared by the unexcelled antihistamine in CORICIDIN Syrup.

and the patient... By stemming the progress of a cold, CORICIDIN Syrup helps prevent the often stormy aftermath of unchecked colds. Patients feel better, sleep better and recover more rapidly.

Each teaspoonful (5 cc.) of CORICIDIN Syrup® contains:

Dihydrocodeinone bitartrate	1.67 mg.
Chlorprophénopyridamine maleate	2 mg.
Sodium salicylate	225 mg.
Sodium citrate	120 mg.
Caffeine	30 mg.
Glyceryl guaiacolate	30 mg.

CORICIDIN Syrup is compatible with therapeutic amounts of other medicaments, such as codeine salts, belladonna tincture and ephedrine sulfate.

dosage — *Adults* — One teaspoonful every three or four hours, not exceeding four doses daily.

Children 6-12 years — One-half adult dosage.

Younger children — Adjust dosage according to age.

packaging — CORICIDIN® Syrup, 4-ounce, pint and gallon bottles.

©Exempt narcotic.





when coughing breaks the spell
control the cough with

CORICIDIN® SYRUP°

©exempt narcotic.

Schering



a happy start to control of children's colds
a fast finish for sniffles, sneezes, fever

CORICIDIN® MEDILETS®

(no caffeine)

Schering
EN 1-227

**comforting relief
of children's colds, fever...**

CORICIDIN MEDILETS

(no caffeine)

comfort for the child—Youngsters soon feel better when CORICIDIN MEDILETS dispel their cold symptoms. The antihistamine component relieves sneezing, nasal blockage and other allergic reactions while aspirin and phenacetin exert prompt analgesic-antipyretic action on aches, pains and fever.

easier for the mother—Mother's worries about the cold and its possible complications dissipate as children show improvement. They become less irritable and are easier to care for. They sleep better, too. And these confetti-gay tablets are easy to give because children like their cherry-lollipop flavor.

Each CORICIDIN MEDILET contains:

Aspirin	80 mg.
Phenacetin	16 mg.
Chlorprophénopyridamine maleate	0.75 mg.

Under 6 years: One-quarter to one MEDILET according to age.

Six to twelve years: One to two MEDILETS.

The dose may be repeated every three or four hours but not more than six MEDILETS should be given within 24 hours.

MEDILETS may be chewed and swallowed with liquids. For young children the tablet may be crushed and mixed with liquid or semisolid vehicles.

packaging

CORICIDIN® MEDILETS,® bottles of 25 and 100.

CH-J-227

Schering



ANNOUNCING

UANTHO

more effective
in clinically
important infections
than any other
antibiotic

FOR MOST INFECTIONS

CILLIN[®]

NEW

(NOVOBIOCIN-PENICILLIN G. MERCK)

THE ANTIBIOTIC PRODUCT
MOST LIKELY TO BE EFFECTIVE

COMPARE THESE ADVANTAGES:

1. Proved effectiveness in the largest number of clinically important infections including those caused by antibiotic-resistant *staphylococci* and *proteus*.
2. Therapeutic, *bactericidal* blood levels are promptly achieved.
3. Exceptionally well tolerated; patient sensitivity reactions are rare at recommended dosage.
4. No yeast or fungal super-infections nor any antibiotic-induced enteritis, vaginitis or proctitis have been reported following CATHOCILLIN.
5. No problems of cross-resistance have been encountered with CATHOCILLIN.
6. The normal intestinal flora is not disturbed by CATHOCILLIN.

DOSAGE: for adults—two capsules q.i.d.; for children under 100 lbs.—dosage in proportion to weight (e.g. one capsule q.i.d. for a child weighing 50 lbs.).

In one prescription the one antibiotic product most likely to be effective

CONSIDER CATHOCILLIN FIRST

—for these clinically important infections: tonsillitis; pharyngitis; pneumonia; otitis media; cervical lymphadenitis; streptococcal sore throat; infected tooth sockets; Vincent's infection; acne and superficial skin infections; impetigo; boils, furuncles and carbuncles; lung abscess; bronchitis; mastitis; osteomyelitis; wound infections; postoperative wound infections and infected lacerations; staphylococcal enteritis, staphylococcal diarrhea of the newborn; peritonitis (caused by susceptible organisms); pelvic inflammatory disease; gonorrhea; gonococcal arthritis; urethritis; scarlet fever; erysipelas.

SUPPLIED: Blue and white capsules of 'CATHOCILLIN'—each containing 125 mg. of 'CATHOMYCIN' (as Sodium Novobiocin, Merck) and 75 mg. (125,000 units) Potassium Penicillin G; bottles of 16.



MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

Open the Flood Gates...

*of
the
Biliary
System
with*

CHOLAN hmb

The most comprehensive biliary therapy available.

Formulated in a single tablet to provide SEDATION,
synergistic with selective SPASMOlysis,
plus potent HYDROCHOLERESIS

FORMULA:

Dehydrocholic acid	250.0 mg
Homatropine methylbromide.....	2.5 mg
Phenobarbital	8.0 mg

Average dose is one tablet 3 times daily.

Maltbie

Liberal Sample
mailed on request

MALTBIE LABORATORIES DIVISION • Wallace & Tiernan Inc. • Belleville 9, N. J.

A B C D

PREGNATAL DRI-KAPS®

When you specify PREGNATAL DRI-KAPS throughout pregnancy and lactation, your patients benefit by these Lederle features:

- comprehensive, balanced multi-vitamin-multimineral prenatal supplement (including three anti-anemic factors)
- exclusive DRI-KAP formulation—dry-filled sealed capsules assuring no oily repeat, no aftertaste (a Lederle exclusive)
- easy-to-swallow, convenient dosage
- made in Lederle's own laboratories under exacting quality control.



Sealed sealed capsules

control, your assurance of complete dependability

Each capsule contains:

Vitamin A	2000 U.S.P. Units
Vitamin D	100 U.S.P. Units
Thiamine Mononitrate (B ₁)	2 mg.
Riboflavin (B ₂)	2 mg.
Niacinamide	7 mg.
Vitamin B ₁₂	1 microg.
Vitamin K (Menadione)	0.5 mg.
Ascorbic Acid (C)	35 mg.
Folic Acid	1 mg.
Calcium (In CaHPO ₄)	250 mg.
Dicalcium Phosphate Anhydrous (CaHPO ₄)	869 mg.
Iron (In FeSO ₄)	6 mg.
Ferrous Sulfate Excreted	28 mg.
Manganese (In MnSO ₄)	0.12 mg.
Phosphorus (In CaHPO ₄)	100 mg.

Dosage: 1 to 3 capsules, throughout pregnancy and lactation

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY,
PEARL RIVER, N. Y.

*Trademark—Vitamins—Minerals



relaxes
both mind
and
muscle

*for the average
patient in
everyday practice*

- well suited for prolonged therapy
- well tolerated, nonaddictive, essentially nontoxic
- no blood dyscrasias, liver toxicity, Parkinson-like syndrome or nasal stuffiness
- chemically unrelated to chlorpromazine or reserpine
- does not produce significant depression
- orally effective within 30 minutes for a period of 6 hours

Indications: **anxiety and tension states, muscle spasm.**

Miltown®

Tranquillizer with muscle-relaxant action

DISCOVERED AND INTRODUCED

BY  WALLACE LABORATORIES, New Brunswick, N.J.

2-methyl-2-n-propyl-1,3-propanedioi dicarbamate — U.S. Patent 2,784,780

SUPPLIED: 400 mg. scored tablets. Usual dose: 1 or 2 tablets t.i.d.

Literature and Samples Available on Request

THE MILTOWN MOLECULE

CM-3708-R

After Hours

Photographs with brief description of **your** hobby will be welcomed. A beautiful imported German apothecary jar will be sent to each contributor.

Hunting Mother Nature's "Treasure Chests"

In Genesis it was commanded that man should subdue the earth, "and not destroy it." Earth scientists, especially geologists, may consider this as applying to the historic efforts of man to discover and exploit the minerals, metals, rocks and other natural resources locked within Mother Nature's "Treasure Chests."

For man to seek these wondrous treasures, he must equip himself with some knowledge of the earth's history, geologic eras, formations, structures and other aspects of that earth science known as geology.

Medical men will find geology easy to understand and learn, as all scientific studies and languages have much in common. A doctor is accustomed to looking for signs and diagnostic indications, which would make him very discerning of the earth's surface—at least I would say that the physician is usually observant of certain contours, mounds, and prominences of the human female (professionally speaking, of course).

After some study, anyone should be able to observe faults, anticlines (dome shaped structures in the earth's crust), synclines (which are inverted domes), dikes (a wall of intrusive igneous material), and to observe character of the rocks, general folding and topography, and then to summarize and to speculate on the mineral deposits that may be trapped therein.

Here in Texas you should watch for evidences of oil and gas deposits, sulphur and salt domes, lignite beds, iron ore deposits, gypsum, uranium and deposits of limestone, building stone, ceramic clays, Fuller's earth, titanium and many others.

I have prospected for uranium and other minerals in the Four Corners Area (where the states of Colorado, Arizona, Utah and New Mexico join) and found it very interesting and educational. Each year when I go quail and deer hunting I also find it most entertaining to observe rocks, formations and structures for clues to hidden mineral deposits. I recommend geology for pleasure and financial security, for the "Treasure Chests" of Mother Nature have not all been found and developed.

J. A. Little, M.D.
Wichita Falls, Texas



New!
Ready-Mixed
Penicillin V
Suspension

Compo



*the higher blood levels
of penicillin V*

... in a delicious, banana-flavored form

cillin-

(Hydrabamine Penicillin V)

Oral Suspension

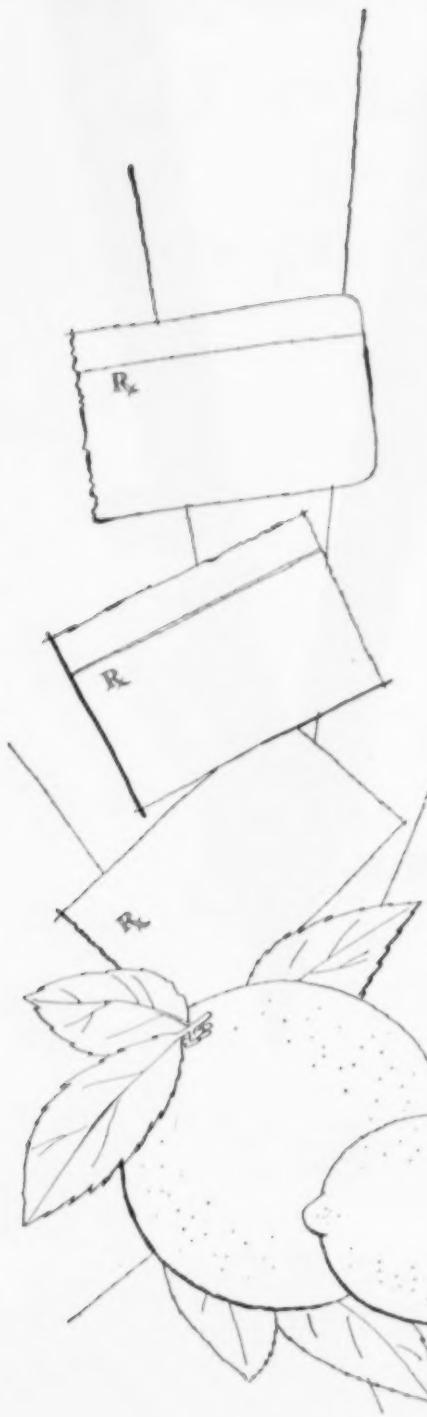
dosage

Usual adult dose is one or two 5-cc. teaspoonfuls every four to six hours. For prophylactic use, 300,000 units once or twice daily. Dosage for older children is the same—for young children, proportionate to weight and age.

supplied

Ready-mixed, stable, COMPOCILLIN-V comes in a tasty, banana-flavored suspension. It's in 80-cc. bottles. Each 5-cc. teaspoonful represents 300,000 units of penicillin V, as the hydrabamine salt. **Abbott**





THE MEDICINAL USE OF PECTIN N.F.

DESCRIPTION

PECTIN N.F. is a purified polygalacturonic acid methyl ester.

USES

- 1) Orally in gastrointestinal disorders; particularly bacillary dysenteries and diarrheas.
- 2) In bulk laxative preparations.
- 3) In pastes and ointments: for healing of wounds, burns and external ulcers.
- 4) In emulsions: for medication and as a stabilizer.
- 5) Postoperative bleeding: oral, topical or parenteral.
- 6) Plasma extender: clinical investigation has placed Pectin Sols high on the list of plasma extenders.
- 7) Pectin test meals: reportedly do not increase pepsin or acid production or alter the emptying time of the stomach.
- 8) The detoxication mechanism of pectin and its derivative galacturonic acid reduces many reactions caused by therapeutic or toxic agents.

AVAILABILITY

Exchange Brand Pectins and Pectin Derivatives are supplied to pharmaceutical manufacturers and are available through them to the medical profession as therapeutic ingredients in specialty products.

Exchange • PHARMACEUTICAL SALES



Medical Teasers

A Challenging Crossword Puzzle for the Physician

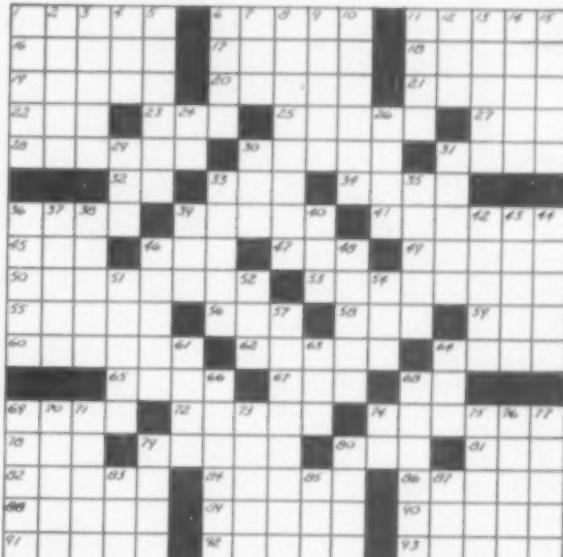
(Solution on page 150a)

HORIZONTAL

1. Sole of the foot
6. Outer rim of the ear
11. Pertaining to the tenth cranial nerve
16. Ointment constituent
17. Bring into line (var.)
18. Raise spirits of
19. Group of species
20. Azygous
21. Treatment (gr.)
22. Tumor (suffix)
23. To ventilate
25. Edible bulb
27. Chemical suffix
28. Said to immunize against leprosy
30. French surgeon (b. 1860)
31. Employer
32. Illium: symbol
33. Insane
34. Hand: French
36. Sk'n disease
39. Heathen
41. Tractable
45. Deception
46. —— for Scottish anatomist & surgeon
47. Labiurnum
49. Plateau region in Peru (pl.)
50. Inability to chew food
53. Hysteria in the male
55. Mountain range, N.W. Wyoming
56. ——ology, cause
58. To irritate
59. Geologic age
60. Breath out
62. Tendon (Gr.)
64. Retention suture
65. Pumpkin seed
67. White metallic element
68. ——num, African disease
69. Light blows
72. Pertaining to the external occipital protuberance
74. Chemical element having even-numbered valency
78. ——logy, therapeutics
79. Contempt
80. Beverage
81. Elastic bandage (proprietary)
82. A tonic
84. Female name
86. Amnesia
88. Attribut.
89. Noun suffix
90. ——ocardia, air within the heart
91. Falls in frozen crystals
92. Dim. of Edmund
93. Lumps of earth

VERTICAL

1. Organisms occurring in ice
2. Presence of fluid in tissues of the body



Submitted by Annette Tarr

3. Belonging to Miss Horne
4. Medical Practitioners' Union (abbr.)
5. Beset
6. Filamentous outgrowth of the body
7. Shade tree
8. Fatlike
9. Silly
10. Desiccative powder
11. Blood vessel
12. Wing of nose
13. Stain for tuberculosis
14. Substance in milk which reduces nitrate
15. Frankfurt surgeon (1853-1916)
24. Negative prefix
26. Toward the mouth
29. Ligate
30. Droop
31. Anterior end of hippocampal gyrus
33. Mental disorder
35. Uroselectan
36. Winged
37. Genus of bedbugs
38. City in South Wales
39. Product of suppuration
40. Insect egg
42. Insert
43. Hysterical barking in women
44. Try
46. He described a famous loop
48. Proprietary opium preparation
51. Products of saponification
52. Stubborn
54. Kidney (Latin)
57. Resembling lockjaw
61. Narrative poem
63. Nothing
64. To pose
65. A glycoside
68. Proprietary name for casein fiber
69. Locomotor ataxia
70. Fruit of the oak
71. Heine-medin disease
73. Angry
74. Antiflavin unit (Ger. abbr.)
75. Physician (prefix)
76. Pained
77. Test for blood in gastric juice
79. Male children
80. Very small
83. Prosper (Scot.)
85. Moderate (abbr.)
87. Lamprey



...reduces risk in reducing

A totally new development in anorexigenic therapy, PRELUDIN substantially reduces the risks and discomfort in reducing.

Distinctive in its Chemistry: PRELUDIN is a totally new compound of the oxazine series.

Distinctive in Effectiveness: In three years of clinical trials PRELUDIN has consistently demonstrated outstanding ability to produce significant and progressive weight loss through voluntary effortless restriction of caloric intake.

Distinctive in Tolerance: With PRELUDIN there is a notable absence of palpitations or nervous excitement. It may generally be administered with safety to patients with diabetes or moderate hypertension.

For your patient's greater comfort: PRELUDIN curtails appetite without destroying enjoyment of meals...causes a mild eveny sustained elevation of mood that keeps the patient in an optimistic and cooperative frame of mind.

Recommended Dosage: One tablet two or three times daily taken one hour before meals. Occasionally smaller dosage suffices.

PRELUDIN® (brand of phenmetrazine hydrochloride). Scored, square, pink tablets of 25 mg. Under license from C. H. Boehringer Sohn, Ingelheim.

GEIGY PHARMACEUTICALS
Division of Geigy Chemical Corporation • Ardsley, N.Y.

GEIGY



from minor abrasions . . .

widest professional usefulness . . . FURACIN®

BRAND OF INTERFERONONE

In the prevention and elimination of infection, more than ten years of clinical experience have established FURACIN as the topical antibacterial most widely useful to the physician.

effectively bactericidal • remarkably wide-range bactericide • effective against many organisms that resist other agents • dissolves freely and remains active in wound exudates

yet gentle to tissues • promotes healing through control of infection • non-macerating • does not retard epithelialization

or granulation • low sensitization rate • no cross-sensitization to antibiotics or sulfonamides

spread FURACIN Soluble Dressing: FURACIN 0.2% in water-soluble, ointment-like base of polyethylene glycols. 56 Gm. tube; jars of 141 Gm., 404 Gm., 5 lb.

sprinkle FURACIN Soluble Powder: FURACIN 0.2% in powder base of water-soluble polyethylene glycols. Shaker-top vial of 14 Gm.

spray FURACIN Solution: FURACIN 0.2% in a liquid vehicle of polyethylene glycols 65%, a wetting agent 0.3%, and water. Bottles of 59 cc. and 473 cc.

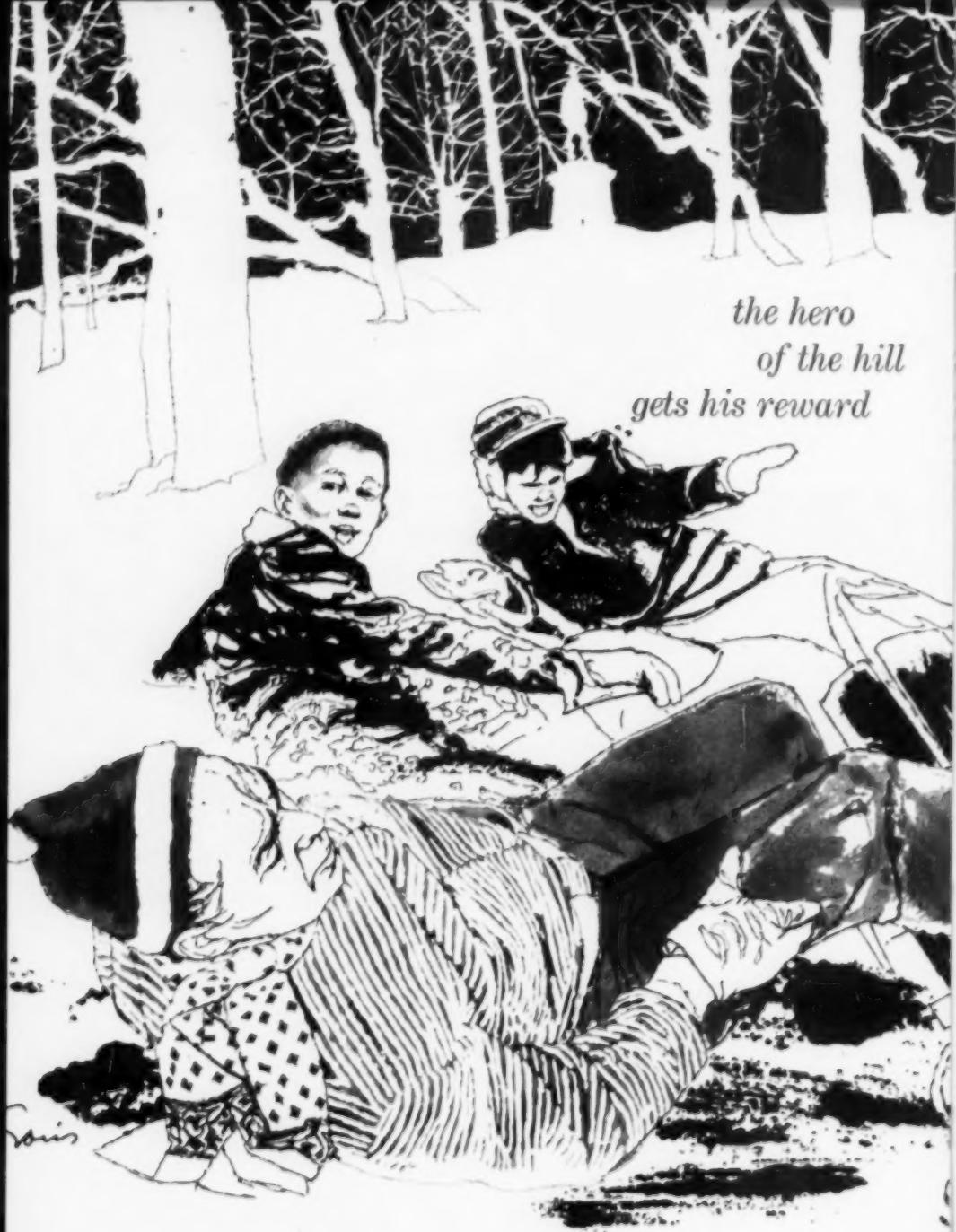
RAYON LABORATORIES, NORWICH, NEW YORK

Nitrofurans—a new class of antimicrobials—either antibiotic or sulfonamide

... to major surgery . . .



*the hero
of the hill
gets his reward*



charleyhorse!

The pain Dad feels now is the beginning of tenosynovitis. With adequate early treatment he'll be able to stay on his job. Delaying therapy might result in the development of effusion and, later, calcification of ligaments or even periarthritis with severe pain and serious restriction of movement.

Immediate antirheumatic therapy is to be encouraged in the treatment of tenosynovitis, as it should be in the majority of other common rheumatic disorders, to alleviate pain and prevent progression of the disturbance to a point of irreversible damage.

SIGMAGEN provides doubly protective corticoid-salicylate therapy—a combination of METICORTEN® (prednisone) and acetylsalicylic acid giving additive anti-rheumatic benefit as well as rapid analgesic effect. These benefits are supported by aluminum hydroxide to counteract excess gastric acidity and by ascorbic acid, the vitamin closely linked to adrenocortical function, to help meet the increased need for this vitamin during stress situations.

*for patients
who go beyond
their physical
capacity*

protective corticoid-salicylate therapy

SIGMAGEN
corticoid-analgesic compound Tablets

Schering



*a true
cough specific
non-narcotic*

ROMILAR 'Roche'

For suppressing cough, whatever the cause, Romilar is at least as effective as codeine. Yet it has no general sedative or respiratory-depressant activity, and it's remarkably free of side effects such as nausea, constipation, or tendency to habit formation. Available as a syrup, in tablets, or expectorant mixture (with ammonium chloride).



Original Research in Medicine and Chemistry

Romilar® hydrobromide — brand of dextromethorphan hydrobromide



Who Is This Doctor?

He was born February 25, 1908, in Washington, D. C., and is now living in Jacksonville, Florida.

He graduated from high school as valedictorian of his class at fourteen, was a Phi Beta Kappa at seventeen, a magna cum laude from Duke University at eighteen, and an M.D. from Johns Hopkins Medical School at twenty-two.

He spent four years in surgical training at Jefferson Hospital, Roanoke, Va., and in 1934 went to Florida where he was associated with a clinical group.

In 1938 he became a Fellow of the American College of Surgeons and in 1940 was certified as a specialist in surgery by the American Board of Surgery. He entered the army in July, 1942, and saw most of his service at Camp Kilmer, N. J., and on a hospital ship out of Los Angeles.

In 1935, he began writing as a hobby. He wrote 250,000 words a year for five years and earned a total of twelve dollars. But once this apprenticeship was served, he began to meet with some success in his hobby.

As he puts it: "Writing, I think, is one of the most satisfying occupations one could have. Through it I reach millions of people, since many of my books have a larger sale in foreign countries than they do in America. I now have ten foreign publishers in addition to my American publishers." But this doctor still considers his writing as a hobby and remains active in surgery.

His nonfiction includes *The New Science of Surgery* (1946), *Medicine for Moderns* (1947) and *Immortal Magyar* (1950). But he shines in fiction. Since 1941 he has published 18 novels, some 13 of which are currently featured on the news stands in paper back editions.

His titles include *Spencer Brade M.D.* (1952), *Air Surgeon* (1943), *Battle Surgeon* (1944) and *The Healer* (1955). Can you name this doctor without turning to page 110a?



to restore appetite and promote weight gain

R **LACTOFORT[®]**

L-lysine + vitamins + minerals

this baby needs help

If he turns his back on food, the infant can neither gain weight nor grow properly.

Efficient protein synthesis requires all the essential amino acids, simultaneously, in the correct proportions.

But many foods in the infant diet are relatively deficient in lysine, compared with meat protein.

Supplied: In 46 Gm. bottles with special Lactofort measuring spoon enclosed.

a dry powder . . . stable . . . odorless . . . tasteless . . . readily soluble

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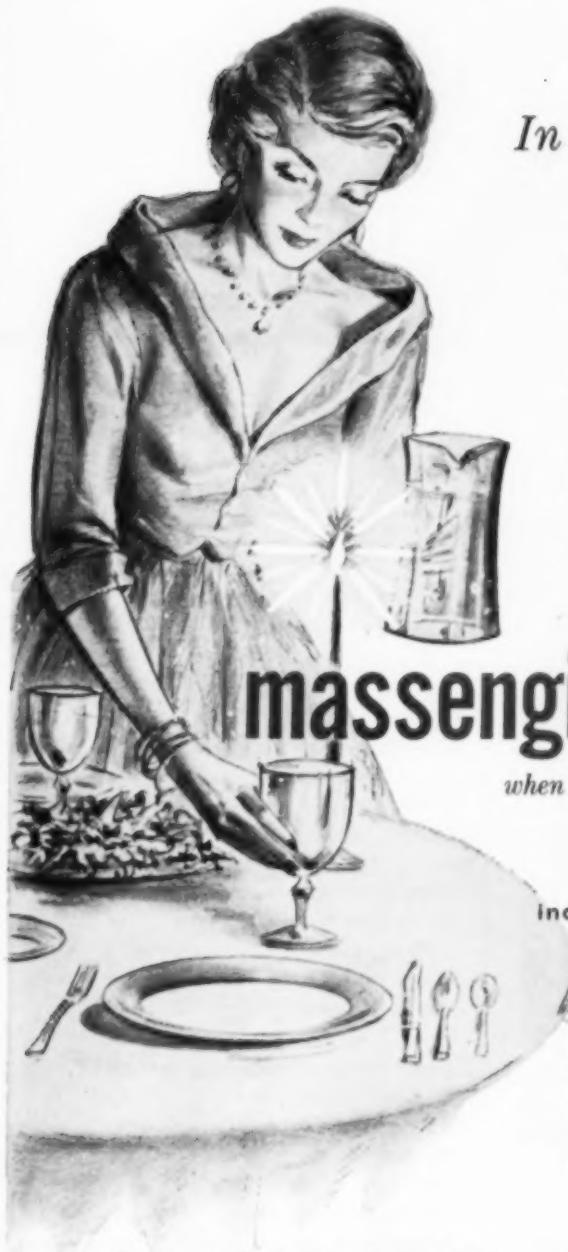
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Persistent anorexia calls for nutritional support with Lactofort

This complete nutritional supplement helps to restore normal growth and perk up lazy appetites in infants with anorexia and impaired nutrition. It supplies physiologic amounts of L-lysine to raise the biological value of milk and cereal to that of high-quality animal protein. In addition, Lactofort provides generous amounts of iron, calcium and all the essential vitamins.

Reference: Williamson, M. B., in Albanese, A. A., et al.: New York State J. Med. 55:3453, 1955.



In deference to her daintiness...

- Massengill Powder is buffered to maintain* an acid condition in the vaginal mucosa. It is more effective than vinegar and simple acid douches.
- Massengill Powder has a low surface tension which enables it to penetrate into and cleanse the folds of the vaginal mucosa.
- Massengill Powder has a "clean" anti-septic fragrance. It enjoys unusual patient acceptance.
- Massengill Powder solutions are easy to prepare. They are nonstaining, mildly astringent.

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indications:

Massengill Powder solutions are a valuable adjunct in the management of monilia, trichomonas, staphylococcus, and streptococcus infections of the vaginal tract. Routine douching with Massengill Powder solution minimizes subjective discomfort and maintains a state of cleanliness and normal acidity without interfering with specific treatment.

*In a recent clinical report, ambulatory patients—with an alkaline vaginal mucosa resulting from pathogens—maintained an acid vaginal mucosa of pH 3.5 for 4 to 6 hours after douching with

Massengill Powder; recumbent patients maintained a satisfactory acid condition up to 24 hours.

*Arnot, P.H.: West. J. Surg., Obs., and Gyn. 62:85

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Lewis, M. L., Jr.: The Problem of the Dizzy Patient, New Orleans M. & S. J. 104:161 (Oct.) 1951.



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SEARLE

LETTERS TO THE EDITOR

This department is offered as an Open Forum for the discussion of topical medical issues. All letters must be signed. However, to protect the identity of writers, who are invited to comment on controversial subjects, names will be omitted when requested.

Poliomyelitis

Dear Doctor Jacobson:

It was indeed, a pleasure to receive yours of Nov. 9th, with its kindly comments on my article "Poliomyelitis—an Endogenous Virus." To date I have received few comments on this particular article, but one coming from Edmonton, Alberta, approves heartily the Endogenous theory. Several requests for reprints have come from South Africa and the Eastern States.

Many readers, in my opinion, feel the theory confuses the Salk and Sabine immunization principles, while in truth, it expands said principles to include that group who are immune to immunity, a situation which similarly exists with B.C.G. Then, too, our Governments having become so financially involved in preventive Polio, our Health Agencies cannot be severely criticized for failing to go out on another limb. For instance, a recent article in MEDICAL TIMES reports on Salk Reactions. These

—Concluded on page 10a

MEDICAL TIMES



some appetites
need a nudge

... and with Stimavite Tastitabs you can prod lagging appetites and promote growth in younger patients, perk up the "picky" adult eater. Their delicious natural fruit flavor makes patient cooperation easy.

Each STIMAVITE TASTITAB contains:

L-lysine 15 mg. for amino-acid improved protein quality.
Vitamin B₁₂ 20 mcg. for appetite and growth stimulation.
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Vitamin C 25 mg. (as sodium ascorbate) for better hemoglobin formation and nucleic acid synthesis.

For the younger patient who doesn't like to eat, or who eats out of balance, and for the adult who eats like a bird, one or two Stimavite Tastitabs daily, at mealtime. Can be chewed, swallowed whole, allowed to melt in the mouth, or dissolved in liquids.

Bottles of 30 and 100 Tastitabs.



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"Our studies have shown conclusively that these vitamins are useful agents in correcting the follicular plugging present in acne vulgaris. Vitamin C is also beneficial in correcting iron deficiency anemia, a condition frequently present in adolescent patients . . . Vitamin C and A proved to be more beneficial to acne when given simultaneously instead of separately." (1)

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REFERENCES

- (1) S. M. Bluefarb, M.D. "The Management of Acne Vulgaris in the 12 and 17 Year Age Group", Postgraduate Medicine, 19:144, Feb., 1956.
- (2) S. W. Becker and M. E. Obermayer, *Modern Dermatology and Syphilology*, 2nd Edition.

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*The topical antibacterial most widely useful
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"...Furacin is an effective antibacterial drug which may be safely prescribed for a variety of conditions involving the external eye and lids."¹

Rapid, effective antibacterial action with unique lack of irritation. Indicated in external ophthalmic bacterial infections including conjunctivitis, blepharitis, dacryocystitis, keratitis, hordeolum, lid abscesses and for the prevention of postoperative infections.

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In 120 cases of otitis treated, "the results have been excellent as compared to results obtained previously."²

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Topically effective antibacterial (with vasoconstrictor) indicated in rhinitis, nasopharyngitis and sinusitis. There is no irritation or stinging, or slowing of the ciliary beat.

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FURACIN Nasal with Neo-Synephrine*: 15 cc. dropper bottle.

*Neo-Synephrine—reg. trademark Winthrop Laboratories, Inc., brand of phenylephrine.

REFERENCES: 1. Brennan, J. W.: Am. J. Ophth. 35:1343, 1952. 2. Anderson, J. R., and Stern, C. H.: Laryngoscope 58:1279, 1948. 3. Spencer, J. T., in Conn, H. F.: Current Therapy 1954, Philadelphia, W. B. Saunders Co., 1954, p. 130.

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Riboflavin	5 mg.	
Nicotinamide <i>(as hydrochloride)</i>	150 mg.	
Vitamin B ₁₂ <i>(as cobalamin concentrate)</i>	6 mcg.	
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Mediquiz

These questions are from a civil service examination recently given to candidates for physician appointments in municipal government. Like to see how you would fare? Answers will be found on page 169a.

1. A fifty-five year old man presents himself for advice with the following information.

Present history: For the past year he has had vague abdominal symptoms of flatulence, belching, dysphagia, distress after meals and frequent bowel movements (up to ten daily) normal in consistency and appearance. Appetite has remained good. He has gained fifteen pounds in weight. He has complained of frequent sub-occipital headaches. Rapid palpitations, increased sweating and momentary sharp pain lateral to the left nipple have been noticed at home. His sleep has been restless. He frequently gets up at night and eats a cracker which, he says, quiets him and permits him to sleep better.

Past history: Usual childhood exanthemata with no residua.

Family history: Father died at age 56 of carcinoma of the stomach. Mother died at 79 of congestive heart failure. Only brother, who had been living with him, died of metastatic carcinoma two years previously at age 50.

Physical examination: A rather apprehensive male of 55, obese, in no acute distress. Positive findings: Pulse varies 76-110, sinus arrhythmia, blood pressure 160-140 systolic, 80-70 diastolic.

The one of the following which might explain all these symptoms is: (A) hypothyroidism; (B) hypertensive heart disease with anginal syndrome; (C) carcinoma of the stomach; (D) anxiety state.

2. In question number one, if the patient has hyperthyroidism, all symptoms could be explained on that condition alone except for: (A) frequent bowel movements; (B) gain in weight; (C) palpitation; (D) restlessness at night.

3. In question one, if the patient has hypertensive heart disease, the one of the following laboratory findings which would help establish the diagnosis is: (A) protein in urine; (B) increase in blood urea; (C) fixation of urinary

—Concluded on page 66a



**IN URINARY
TRACT
INFECTIONS**

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SWIFTLY combats the two primary causes of pain, burning, urgency, dysuria, frequency in genito-urinary infections.

URISED's dual-powered formula exerts direct and steadfast control on pain-producing factors.

In a matter of minutes, through the parasympatholytic action of atropine, hyoscyamine and gelsemium, painful smooth muscle spasm is usually relieved and relaxed—directed toward a restored normal tone. In two or three days, distress may subside completely.

With equal rapidity, URISED's antibacterial agents—methenamine, salol, methylene blue and benzoic acid—traverse the entire urinary tract to hold bacterial growth at a minimum, reduce bacterial and pus-cell content, encourage healing of mucosal surfaces.

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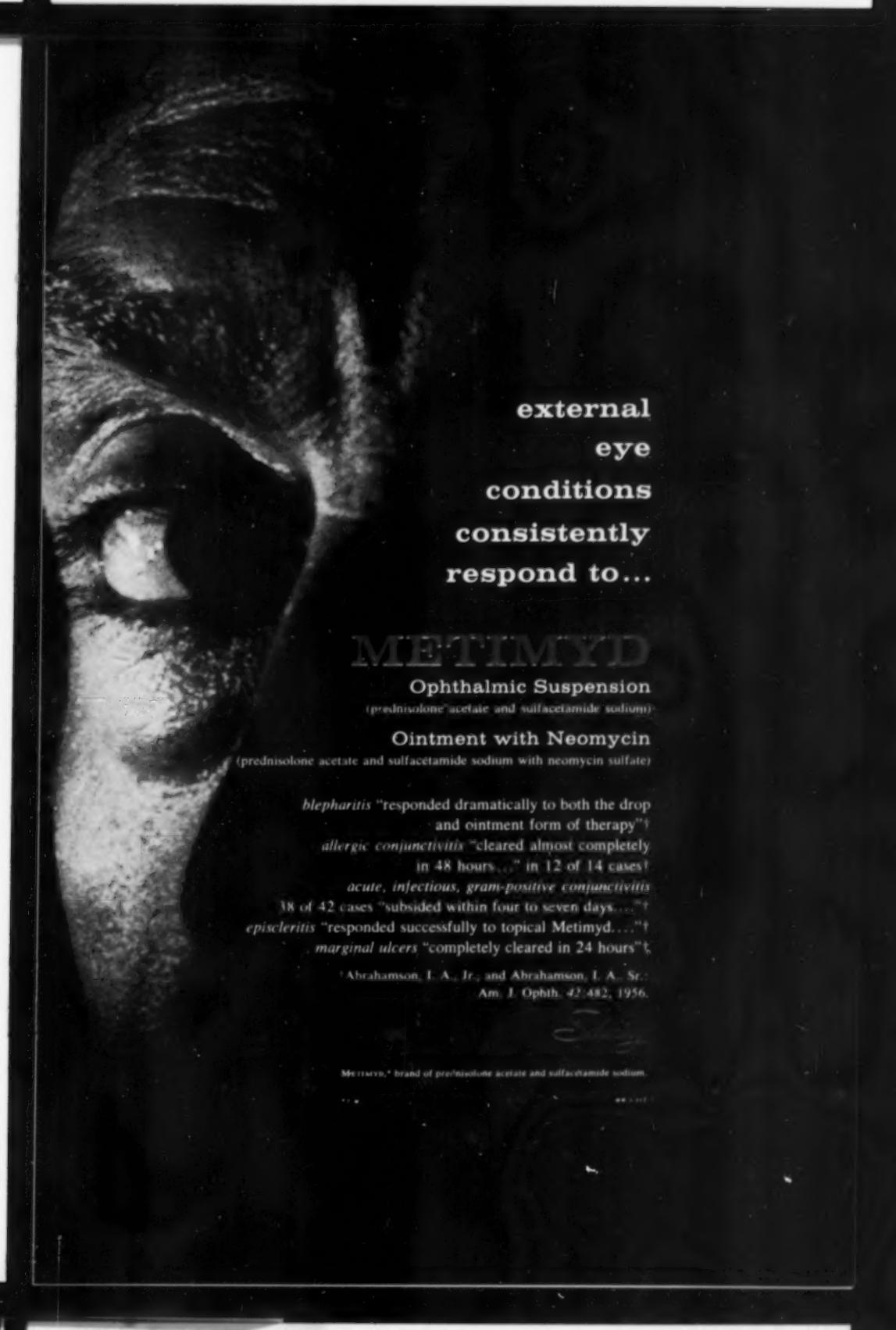
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Ointment with Neomycin

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blepharitis "responded dramatically to both the drop
and ointment form of therapy"†

allergic conjunctivitis "cleared almost completely
in 48 hours" in 12 of 14 cases‡

acute, infectious, gram-positive conjunctivitis

38 of 42 cases "subsided within four to seven days"§

episcleritis "responded successfully to topical Metimyd..."†

marginal ulcers "completely cleared in 24 hours"¶

† Abrahamson, I. A., Jr., and Abrahamson, I. A., Sr.:
Am. J. Ophth. 42:482, 1956.

METIMYD, * brand of prednisolone acetate and sulfacetamide sodium.

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Pentobarbital sodium and Carbromal. In Kapsal[®] and Elixir form.

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evacuation of soft, well-formed stools is achieved dependably with SENOKOT through stimulation of Auerbach's plexus and restoration of normal bowel motility.

rehabilitation of the constipated bowel with SENOKOT permits gradual reduction of dosage and eventual discontinuance. It is "...a cure in the true sense of the word."*

DOSAGE: Average starting dosage for adults is one level teaspoonful of the granules (or two tablets), preferably at bedtime. Dosage may be increased or decreased to meet the patient's specific needs. **GRANULES:** Cocoa-flavored in 8 and 4 ounce containers. **TABLETS:** Small and easy to swallow, in bottles of 100.

*Abrahams, A.: Brit. Ency. Med. Pract., 2 ed., Interim Supplement, London, Butterworth (Mar.) 1954.

EVACUATION PLUS REHABILITATION

...assured
in constipation with

the natural bowel corrector
Senokot

BRAND OF STANDARDIZED CONCENTRATED ACTIVE PRINCIPLES OF COCOA ANTHOHALIC FOLIUM

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specific gravity; (D) cardiac enlargement on x-ray.

4. In question number one, if you suspect carcinoma of the stomach, the one of the following laboratory findings which would be of greatest significance is: (A) erythrocyte sedimentation rate increased; (B) decrease in white blood count; (C) achlorhydria; (D) occult blood in stool.

5. In question number one, if the patient is suffering from anxiety state, he will show: (A) equal and overactive knee jerks; (B) dorsiflexion of great toe in plantar reflex; (C) unequal pupils; (D) absent cremasteric reflexes.

6. The one of the following courses which would be most helpful in determining whether or not the diagnosis (in question number one) should be anxiety state is: (A) obtaining further history; (B) finding a normal stomach on radiographic study; (C) finding a normal electrocardiogram; (D) finding an absent gag reflex.

7. In young patients with rheumatic heart disease, the most frequent of the following causes of heart failure is: (A) overexertion; (B) active rheumatic carditis; (C) emotional trauma; (D) pericardial effusion.

8. The most common cause of right ventricular failure is: (A) tight mitral stenosis; (B) advanced cor pulmonale; (C) pulmonary stenosis; (D) left ventricular failure.

9. The diagnosis of mitral insufficiency in a young patient is justified if there is a systolic murmur at the apex which is: (A) loud and harsh; (B) transmitted; (C) associated with cardi-

ac enlargement; (D) accompanied by a loud third sound.

10. Clinically, auricular fibrillation must be differentiated from: (A) auricular flutter with complete A-V block; (B) auricular flutter with 1 to 4 ventricular response; (C) auricular flutter with varying ventricular response; (D) normal sinus rhythm with alternating left bundle branch block.

11. Generalized arteriolar vasoconstriction causes an increase principally in: (A) systolic blood pressure; (B) diastolic blood pressure; (C) pulse pressure; (D) capillary blood pressure.

12. Radiographically, the characteristic shape of the cardiac silhouette in well-established hypertensive heart disease is: (A) boot shape; (B) water bottle shape; (C) straightened left border due to obliteration of the cardiovascular angle; (D) caused by prominence of the pulmonary conus.

13. Of the following diseases, the one most likely to be followed by glomerular nephritis is: (A) mumps; (B) diphtheria; (C) chicken pox; (D) scarlet fever.

14. Of the following diseases, the one in which increased titre of heterophile antibodies is an important diagnostic aid is: (A) typhus fever; (B) infectious mononucleosis; (C) lymphocytic choriomeningitis; (D) influenza.

15. Of the following diseases, the one in which perforation of the bowel is most likely to occur is: (A) amebiasis; (B) bacillary dysentery; (C) typhoid fever; (D) typhus fever.

(Answers on page 169a)

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RHEUMATIC and
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Enteric coated tablets, each containing:
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The synergism of sodium paraminobenzoate and salicylamide facilitates the rapid establishment of high blood levels with minimal dosage. Maintenance needs are met with proportionally lower doses. The gastric distress which normally attends the administration of most salicylates employed for this purpose is absent. Vitamin C levels are protected throughout the course of treatment by the addition of ascorbic acid.



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Contain calcium...
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Natalins-PF are formulated for the busy, modern woman. The capsules are small, attractive, easy to swallow. Just one to three capsules daily, according to need, help supply the increased requirements for vitamins, iron and calcium in pregnancy.

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MODERN MEDICINALS

These brief resumes of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards and a record kept. This file can be kept by the physician for ready reference.

Ansolsen Tartrate, 200 mg., Wyeth Laboratories, Philadelphia 1, Pennsylvania. A new strength of the product indicated for reduction of blood pressure in hypertension. **Dose:** As directed by physician. **Sup:** Bottles of 100.

Antepar Wafers, Burroughs Wellcome & Co., Tuckahoe 7, New York, New York. Contain the equivalent of 500 mg. piperazine hexahydrate. Indicated in the treatment of pinworms and ment for pinworms; two-day treatment for pinworms; Two-day treatment for roundworms. Daily dosage depends upon weight of the patient. **Sup:** Boxes of 28 in plastic strip packing.

Baby Vitamin Drops, Walker Laboratories, Inc., Mount Vernon, New York. Contain a combination of vitamins indicated as a dietary supplement for infants and children. **Dose:** 0.6 cc. daily. **Sup:** Bottles 30 cc.

Bendectin, The Wm. S. Merrell Co., Cincinnati, Ohio. Coated tablets containing 10 mg. each Bentyl (dicyclomine) hydrochloride, Decapryl (doxylamine) succinate, and pyridoxine hydrochloride. Indicated for control of nausea, particularly in pregnancy. **Dose:** 2 tablets at bedtime. Severe

cases as directed by physician. **Sup:** Bottles of 100.

Calcets, Walker Laboratories, Inc., Mount Vernon, New York. Candispheres containing vitamins A, D₂; calcium phosphate, dibasic, anhyd; and trace elements. Indicated as a dietary calcium supplement, particularly in diets deficient in milk or milk products; or if allergies exist to milk or natural sources of calcium intake; or if needs are increased as in growing children, during pregnancy and lactation, and in conditions involving skeletal decalcification. **Dose:** For prophylaxis one candisphere 3 times a day; for therapeutic purposes as directed by physician. **Sup:** Bottles of 60.

Cer-O-Streps—One, The Upjohn Company, Kalamazoo, Michigan. Each vial contains 0.5 gm. of dihydrostreptomycin and 0.5 gm. of streptomycin (present as the sulfates), 300,000 units of crystalline chloroprocaine penicillin O, and 100,000 units of buffered sodium penicillin O. Indicated in treatment of infections with either gram-positive or gram-negative organisms, mixed infections, and infections in which the causative organisms cannot readily be identified as in

—Continued on following page

brain abscess, mediastinitis, and peritonitis. **Dose:** As directed by physician. **Sup:** Rubber capped vials with instructions for preparation.

Cer-O-Streps—One-Half, The Upjohn Company, Kalamazoo, Michigan. Each of these vials contains half the amount of dihydrostreptomycin and streptomycin (0.25 gm.) contained in Cer-O-Streps—One, plus the same amount of crystalline chlorprocaine penicillin O, and buffered sodium penicillin O. To be used as directed by physician.

Cerofort Drops, White Laboratories, Inc., Kenilworth, New Jersey. 1.5 cc. contains L-lysine monohydrochloride, 450 mg., vitamin B₁₂, 25 mcg., thiamine hydrochloride 10 mg., pyridoxine hydrochloride 5 mg. Indicated as an appetite stimulator. **Dose:** 1.5 cc. daily. **Sup:** Bottles of 24 cc.

Colace Syrup, Mead Johnson & Co., Evansville, Indiana. Orange-mint-flavored syrup supplies 20 milligrams dioctyl sodium sulfosuccinate per teaspoonful. A non-laxative stool-softener designed to appeal to children. **Dose:** As directed by physician. **Sup:** Bottles of 8 ounces.

Eldec Kapsseals, Parke, Davis & Company, Detroit 32, Michigan. Contain a combination of vitamins, digestive enzymes, minerals, protein factors, estrogen and androgen. Designed to serve as effective aid in practice of preventive geriatrics. **Dose:** Usual dose is one Kaps seal 3 times daily before meals. Female patients should follow each 21-day course with 7-day rest interval. **Sup:** Bottles of 100.

Flavinol-C, Walker Laboratories, Inc., Mount Vernon, New York. Candi-

spheres, containing 100 mg., each of Flavinol and ascorbic acid. Indicated for use in the maintenance of normal capillary integrity and in the treatment of abnormal capillaries. Also of value as an aid in the relief of the common cold. **Dose:** One to six Candispheres daily, or as indicated by physician. **Sup:** Bottles of 30 and 100.

Gantrimycin 'Riche', Hoffmann-La Roche Inc., Nutley, New Jersey. Tablets, each containing Gantrisin 333 mg. and oleandomycin 75 mg. A double-spectrum antibacterial indicated for use in a wide variety of bacterial infections, particularly respiratory, localized pyogenic, systemic gram-positive and gram-negative microorganisms. **Dose:** As directed by physician. **Sup:** Bottles of 50.

Hycomine Syrup, Endo Laboratories, Richmond Hill 18, New York. A combination of 5 mg. Hycodan (dihydrocodeinone bitartrate), 12.5 mg. pyrilamine maleate, 1.5 mg. homatropine methylbromide, ammonium chloride and citric acid. Indicated in colds associated with allergic symptoms such as cough, nasal congestion and sneezing. **Dose:** As directed by physician. **Sup:** Bottles of one pint and one gallon.

Hydeltra-TBA, Merck Sharp & Dohme, Division of Merck & Co., Inc., Philadelphia, Pennsylvania. A suspension containing 20 mg. prednisolone tertiary-butylacetate per cc. Indicated in treatment of rheumatoid arthritis, osteoarthritis, bursitis, soft-tissue rheumatic conditions to provide anti-inflammatory activity at tissue level. **Dose:** As directed by physician. **Sup:** 5 cc. vials.

—Continued on page 72a

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Intromycin Powder, Pitman-Moore Co., Division of Allied Laboratories, Inc., Indianapolis 6, Indiana. Each Gm. contains streptomycin base (as sulfate) 15 mg., neomycin sulfate (5.25 mg. neomycin base) 7.5 mg., and carob powder 950 mg. Indicated as an anti-diarrheal. **Dose:** Adult—two level teaspoons 2.3 h. **Sup:** Jars of 2½ oz.

Moderil, Pfizer Laboratories, Div. of Chas. Pfizer & Co., Inc., Brooklyn 6, New York. Tablets of rescinnamine (rauwolfa alkaloid). Used for relief of chronic nervous tension and anxiety and control of mild to moderate hypertension and high blood pressure. **Dose:** As directed by physician. **Sup:** 0.25 mg. tablets in bottles of 100 and 500; 0.5 mg. tablets in bottles of 100.

Neolax, The Central Pharmacal Company, Seymour, Indiana. Pink, coated tablets containing dehydrocholic acid, 0.24 gm. and diethyl sodium sulfosuccinate 50 mg. Indicated in the treatment of chronic constipation, particularly when associated with biliary insufficiency, and for fecal impaction associated with megacolon, anal fissures, and the postoperative state following rectal surgery. **Dose:** As a fecal softener—one tablet after evening meal or at bedtime; more resistant cases, two or three tablets daily. As a hydrocholeretic — one tablet t.i.d. after meals. **Sup:** Bottles of 30, 100 and 500.

Parenzyme Aqueous, The National Drug Co., Philadelphia 44, Pennsylvania. Two-vial preparation of lyophilized trypsin and a diluent, for intramuscular injection. Indicated for use in rapid reduction of local inflammation and swellings. **Dose:** One-half to one ml. at the discretion of physician. **Sup:** Vials containing 25 mg. of sterile

lyophilized trypsin which, when placed in solution by adding 5 ml. of the accompanying diluent, provides 5 mg. of trypsin per ml. of solution.

Pen-Vee-Cidin Capsules, Wyeth Laboratories, Philadelphia 1, Pennsylvania. Contain penicillin V 62.5 mg., salicylamide 194 mg., promethazine HCl 6.25 mg., phenacetin 130 mg. and mephenetermine sulfate 3 mg. Indicated for the symptomatic relief from the common cold and to forestall sequelae. **Dose:** Adult—initially two capsules; then one to two capsules every 6-8 hours; continue 48 hours after temperature returns to normal. **Sup:** Bottles of 36.

Phenaphen Plus, A. H. Robins Company, Inc., Richmond 20, Virginia. Coated tablets, each containing phenacetin 3 gr., acetylsalicylic acid 2½ gr., phenobarbital ¼ gr., hyoscymine sulfate 0.031 mg., prophenpyridamine maleate 12.5 mg., phenylephrine hydrochloride 10.0 mg. Indicated for symptomatic relief of the common cold, influenza or gripe, allergic rhinitis, conjunctivitis and hay fever, upper respiratory infections associated with nasal congestion, and sinusitis. **Dose:** One or two tablets 3 times a day, or as directed by physician. **Sup:** Bottles of 100.

Pinsirup, Walker Laboratories, Inc., Mount Vernon, New York. Syrup containing piperazine phosphate in an amount equivalent to 500 mg. of piperazine hexahydrate in 2 teaspoons (10 cc.). Indicated for the treatment of pinworms and roundworms. **Dose:** As directed by physician. **Sup:** Bottles of 8 oz.

Selsunef, Abbott Laboratories, North Chicago, Illinois. Ointment, each

—Continued on page 74a

N ADVANCE



in the treatment of vaginitis

new... simple... effective... topical therapy

Clinical evidence shows Sterisil Vaginal Gel to be highly effective not only against Trichomonas and Monilia, but against the newly discovered pathogen *Hemophilus vaginalis* (now believed to be the etiologic organism most frequently responsible for so-called "non-specific" vaginitis and leukorrhea).*

High tissue affinity of Sterisil assures prolonged antiseptic action; vaginal secretions are less likely to remove Sterisil from the site of application. Sterisil is also more convenient for the patient. Fewer applications are required for successful treatment.

Acceptable to patients, Sterisil Vaginal Gel is easily applied, won't leak or stain, requires no pad. Signs of local or systemic toxicity or sensitization have not been reported.

Dosage: One application every other night until a total of 6 has been reached. This treatment may be repeated if necessary.

Supplied in 1½ oz. tube with 6 disposable applicators. Instructions for use are included with each package.

*Gardner, H. L., and Dukes, C. D.: Am. J. Obst. & Gynec. 69:962 (May) 1955.

STERISIL[®] VAGINAL GEL

Brand of hexetidine

WARNER - CHILCOTT



PFIZER LABORATORIES

Division, Chas. Pfizer & Co., Inc., Brooklyn 6, New York

MODERN MEDICINALS

—Continued from page 72a

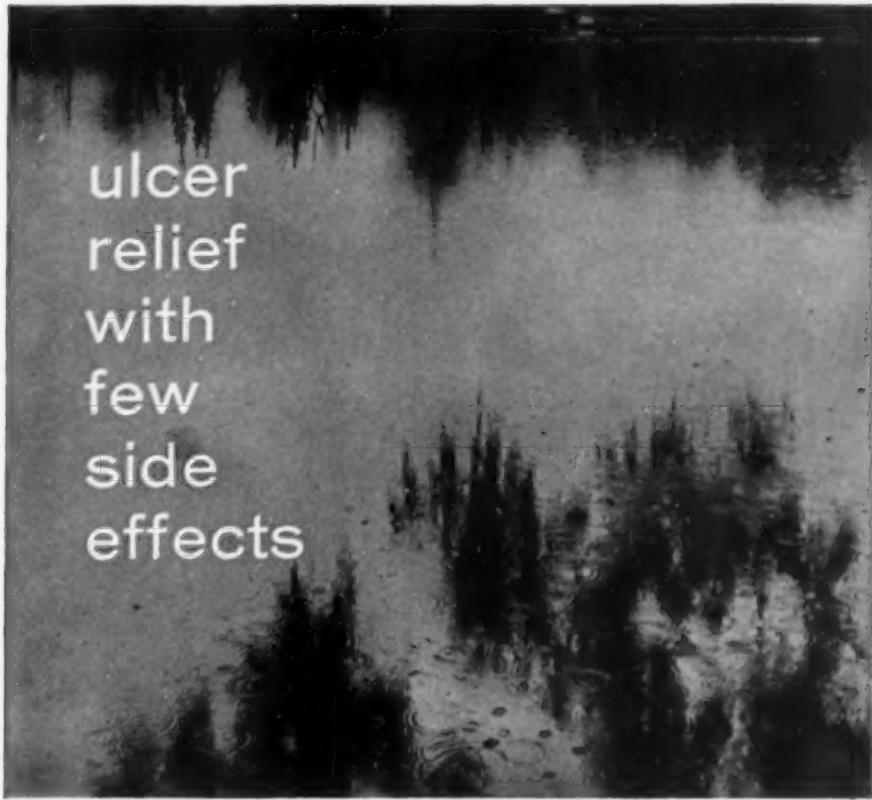
5 gm. tube of which contains selenium disulfide 0.5% and hydrocortisone acetate 0.5% in a soft petrolatum base. Indicated for treatment of marginal blepharitis, seborrheic dermatitis of the auditory canal or other limited areas of the body, and for allergic dermatoses where seborrheic involvement is suspected. **Dose:** After cleansing involved area, apply Selsunef by rubbing on small quantity. Allow to remain for 30 minutes, then remove by wiping with clean cloth or tissue. **Sup:** Tubes of 5-gm.

Sigmamycin Oral Suspension, Pfizer Laboratories, Division of Chas. Pfizer & Co., Inc., Brooklyn 6, New York. A combination of the wide range antibiotic tetracycline with oleandomycin. Reported to be effective against a wide variety of infections

and to provide added protection against the emergence of resistant strains of bacteria. **Dose:** As directed by physician. **Sup:** Bottles of 2 oz. containing 1.5 grams of the combination to which water is added.

Stilphostrol Tablets, Ames Company, Inc., Elkhart, Indiana. Contain diethylstilbestrol diphosphate 50 mg. Indicated in estrogen-refractory cases of prostatic carcinoma. **Dose:** As directed by physician. **Sup:** Bottles of 50.

Sul-Spansion, Smith, Kline & French Laboratories, Philadelphia 1, Pennsylvania. Sustained release liquid containing sulfaethylthiadiazole. Indicated in respiratory and urinary tract infections. **Dose:** For adults and children over 75 lbs. 1 tablespoonful every 4 hours. **Sup:** Bottles of 120. **Concluded on page 78a**



ulcer
relief
with
few
side
effects

PATHILON*

TRIOMHEXETHYL IODIDE LEDERLE

PATHILON is well tolerated in orally given doses and provides not only prompt clinical symptomatic relief but also effective inhibition of painful spasm at the ulcer site. Important to many patients, PATHILON is relatively inexpensive.

PATHILON is particularly useful in ulcer treatment because its peripheral atropine-like actions are associated with few side effects.¹ Side effects, if any, are usually not severe enough to warrant discontinuance of the drug.²

Recommended in the treatment of peptic ulcer, gastric hyperacidity and hypermotility, gastrointestinal spastic conditions such as spastic and irritable colon, functional diar-

rhea, pylorospasm, and hypermotility of the small intestine not associated with organic change.³

Available in three forms; tablets of 25 mg., plain (Pink) or with phenobarbital, 15 mg. (Blue), and parenteral, 10 mg./cc.—1 cc. ampuls.

1. *Evaluation of Drugs in the Treatment of Peptic Ulcer* by J. M. Ruffin, M.D.; D. Cayer, M.D.; J. S. Atwater, M.D., and H. G. Oren, M.D., Exhibit at A.M.A. Meeting, Atlantic City, June, 1956.

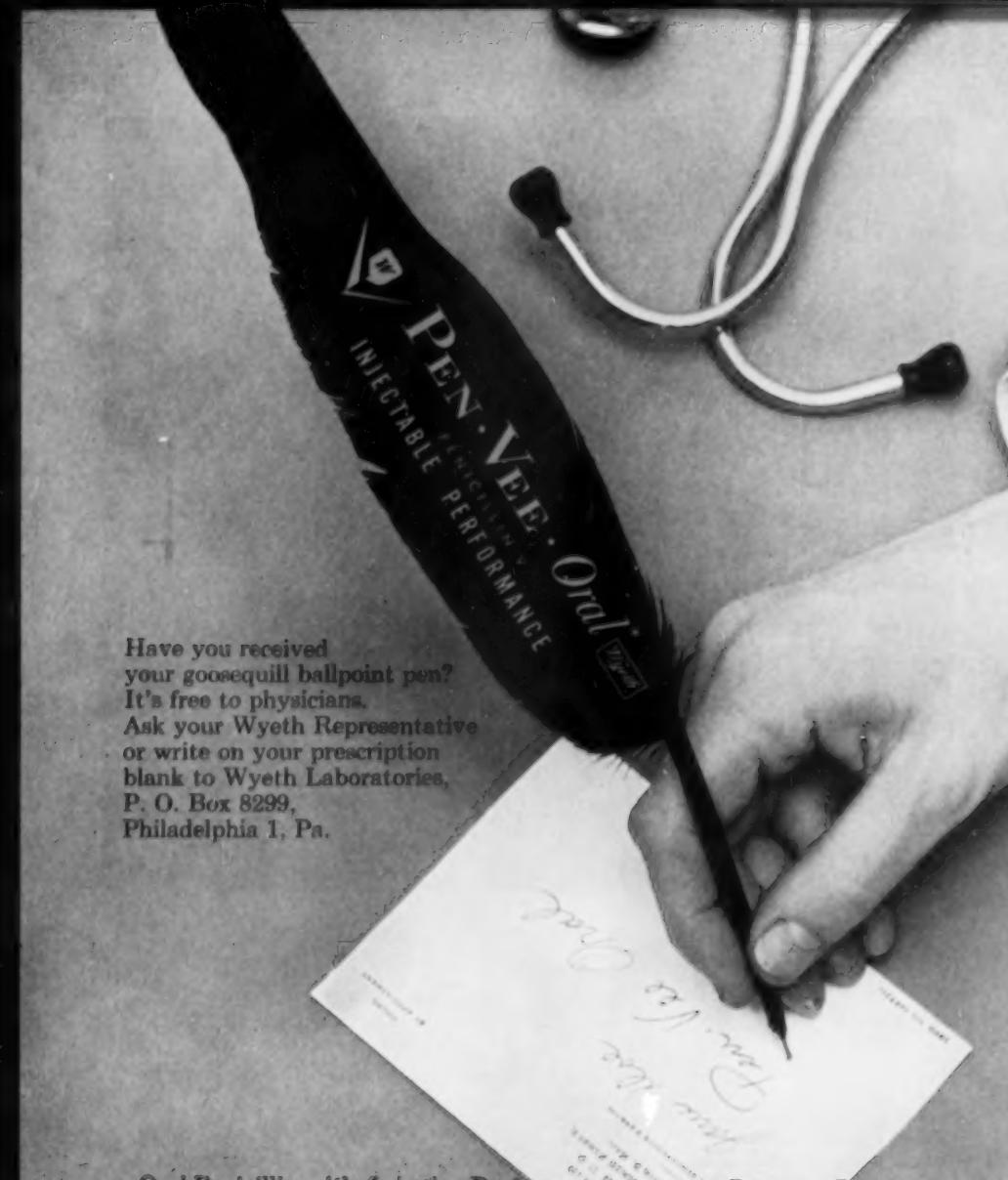
2. Council on Pharmacy and Chemistry: *J.A.M.A.*, 160:389 (Feb. 4) 1956.

3. Council on Pharmacy and Chemistry: *ibid.*

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

*REG. U. S. PAT. OFF.





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Philadelphia 1, Pa.

There are many short periods of time which, if measured correctly, are considered valuable diagnostic durations — such as the P-R interval in ECG interpretation, and the minutes during which a patient consumes oxygen in a BMR test. If the readings related to these measurements are to be used with complete confidence, it is wise to consider another important measure of time — and that is the *background* of the instruments which produced them.

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No one understands better than a physician that it takes time to become suitably proficient in a chosen work. The unmatched background of knowledge and experience making possible such fine instruments as the Viso-Cardiette and Metabulator did not come about overnight, and is the result of almost 40 years of successful medical instrument development. Such a background assures you that it is safer to select Sanborn.

SANBORN COMPANY, WALTHAM 54, MASSACHUSETTS

12 hours. Smaller children, as directed by physician. **Sup:** Bottles of 8 oz.

Tetracydin Tablets, Pfizer Laboratories, Division of Chas. Pfizer & Co., Inc., Brooklyn 6, New York. Contain tetracycline 125 mg., buclizine HCl 15 mg., phenacetin 120 mg., salicylamide 150 mg., caffeine 30 mg. Indicated in the treatment of minor upper respiratory tract infections. **Dose:** As directed by physician. **Sup:** Bottles of 24.

Trolar Tablets, G. W. Carrick Co., Newark, New Jersey. Contain cola concentrate, homatropine methylbromide 5 mg. and butabarbital 15 mg. Indicated for use in gastrointestinal spasms, colic, nervous dyspepsia, irritable colon, mucous colitis, spastic constipation, emotional diarrhea.

Dose: One to 2 tablets three times a day. **Sup:** Bottles of 100 and 1000.

Corrigenda

Nesacaine Hydrochloride, Maltbie Laboratories Division, Wallace & Tiernan Inc., Belleville, New Jersey. In the listing of this drug in the Medical Times (Oct. 1956), page 68a, the product name was incorrectly spelled as "Nescaline." Please note that the correct spelling is "Nesacaine."

Resercen Timules, The Central Pharmacal Co., Seymour, Indiana. In the listing of this drug in the Medical Times (Nov. 1956), pg. 80a, the product name was incorrectly spelled as "Resceren Timules". Please note that the correct spelling is "Resercen Timules".



"... best results were obtained with women 35 to 55 years of age, who complained of anxiety, insomnia, chronic fatigue and despondency."

In a series of 84 patients, Knoch and Kirk report that after 'Compazine' treatment, these women (age 35 to 55) "were no longer fatigued, were sleeping well, had increased energy and showed a lively interest in their surroundings."

'Compazine', S.K.F.'s new tranquilizer and antiemetic for everyday practice; has shown minimal side effects at recommended dosages.

Compazine[★]

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Smith, Kline & French Laboratories, Philadelphia

1. Knoch, H. R., and Kirk, R.: Prochlorperazine—A New Agent for the Treatment of Psychic Stress, in manuscript.

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by
the
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from the cough center clear down to the small bronchi, this golden, nectar-like syrup gives your coughing patients fast, comprehensive therapy.

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Dihydrocodeinone Bitartrate . . . 10 mg. (1/6 gr.)
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(twice as much iodide as before) Abbott

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Medicine Behind The "Curtain"

Russian tanks had finally crushed the last organized resistance in Budapest and other cities. Remnants of the Freedom Fighters had fled to the forests. Just before dawn, in a heavy snow-storm, two gaunt figures walked across the Hungarian border. Each carried an infant, and all their worldly possessions were contained in one small suitcase. The taller of the two was Dr. A. . . , a young Hungarian specialist. He was accom-

panied by his wife and two children. They had travelled many miles on foot, in order to reach the border. The only clothing they had was what they were wearing. Dr. A. . . is now working in a hospital in a midwestern city. Here is his story of medical education, training and practice in Hungary as related through an interpreter. To protect his relatives and associates, references to names and places have been deleted.

How did you get out?

We came by train to . . . , then we took a train to . . . , which is approximately 30 to 35 kilometers from the border. From there we came on foot to . . . in Austria.

With your wife and two children?

Yes.

Briefly, what was your escape plan?

We carried nothing in the way of baggage, clothing, papers, etc., that would indicate that we intended to go

to Austria. All we had were forged papers that showed we were visiting relatives near the Austrian border.

And how were you eventually taken here to the United States?

We spent three weeks in a refugee camp in Austria, then through this charitable organization we were flown to this country by way of Germany, Scotland and Newfoundland.

During all this time you wore the same clothes you escaped in?

Yes. My wife, who wore slacks, had

"... there was a shortage of physicians"

almost forgotten what a dress was like until she was given one when we arrived in New York.

Do you expect to return to Hungary?

Yes, I would like to go back to Hungary when the Communists leave there. I would like to spend some time in the United States, first to learn the language, then to work and study in my specialty. Most of us refugees hope to be able to return to our homeland when the Communists leave. Following the second World War there were great social changes in Hungary, such as the abolishment of the large landowners system. The medical profession then were in favor of helping the people obtain better living standards than they had before. However when Rakosi, the

Stalinist Communist took over the government, doctors were the strongest opponents of this extremist Communist regime. Again during the revolution, the doctors were among the first ones on the streets giving medical aid to those wounded in fighting the Communists and the Russians.

2,000 PHYSICIANS HAVE LEFT

Have you any idea how many physicians have left Hungary?

I have no personal knowledge, but I have heard from other physicians that approximately 2000 have left. This will pose an extremely difficult problem because there was a shortage of physicians in Hungary even before the defection of this large number. You see, the doctors would be right in the first line of re-

"... the standard of instruction has sunk to an incredible degree."



"...it was considered an honor to flunk Russian"

prisals because it is considered a sin to help the Freedom Fighters.

The Party people know of our activities and we were afraid, of course, that once the Communists were in control again we would be held responsible for them. During the period between 1948 and 1954 many physicians were arrested and jailed because of their resistance to the regime.

So, historically speaking, you knew what you could expect now?

Yes.

Of that 2000 physicians who have left Hungary, do you know how many have come to the United States?

I believe only 20 or 30 have come to this country.

Have many of the hospitals and medical schools been damaged in the recent fighting?

In Budapest particularly, many buildings belonging to the University and many of the clinics were damaged in the fighting.

Did you participate in the fighting?

Not directly except insofar as I treated the wounded. However, I did participate in the demonstrations of young people who went out in the streets of ... and stood bare-handed in front of the advancing Russian tanks. In these demonstrations very young children between 12 and 15 actually lay down in the streets and blocked the tanks with their bodies.

Did the tanks go over the children?

No, they stopped. Later when the Russians gained control of again, the Freedom Fighters moved back into the forest. We then supplied them with medicines from the city and again treated the wounded.

How many weeks did this fighting last?

From the 23rd of October till about the middle of November.

NO PRE-MEDICAL TRAINING REQUIRED

How much pre-medical training is required before a student can enter a medical school in Hungary?

There is no actual pre-medical training required. Until 1950, the only requirement necessary to enter medical school was a diploma from one of the "gymnasiums," which include Latin in their curricula.

Just what is a "gymnasium"?

That is the term for our secondary schools. Until 1948 the Hungarian elementary school course was six years. However, if you were going on to a gymnasium, you could leave at the end of four years and take eight years of gymnasium. After 1948 the elementary school course was changed to eight years and the gymnasium to four.

RUSSIAN LANGUAGE OBLIGATORY

Is Russian a required language in the schools now?

Russian was obligatory in all schools

"... even the theological institutions are under state control"

of the country from the first year of grammar school on, i.e., until Imre Nagy took over the government shortly before the revolution. Then he abolished the obligatory study of Russian. However, now that the Russians are back in control it will probably be reinstated.

Do you speak Russian?

I know how to write and I know how to read a little Russian, and I know a few words, but nobody learned Russian really. It was an obligatory thing but everybody put up the utmost resistance and it was considered an honor to flunk the subject. During the first days of the revolution students placed all their Russian textbooks in front of Soviet monuments, which are in abundance in Hungary, and burned them.

What is the average age of a student entering medical school?

Between 18 and 20.

What is the cost of medical education per year to the student?

The students attend on state scholarships. The students who get better grades get more scholarships, that is, more money.

Are any of the medical schools privately controlled or are they all under government control?

There are no privately controlled schools in Hungary at all. Even the theological institutions are under state control.

Is acceptance to medical school based on scholarship?

Years ago only students of high schol-

astic standing were accepted in medical school. However, starting in 1950, when the worst Stalinist times came to Hungary, entirely different qualifications were set.

SCHOLASTIC STANDING COMPLETELY IGNORED

The Communist Party set these new qualifications?

Yes. Under the new system the basic requirement for admission was that the student come from a very poor background, i.e., factory workers or farm hands, without regard to their scholastic standing. A great many of these students had no secondary school training at all; therefore, a condensed course was given to enable them to obtain secondary school diplomas. This condensed course took approximately two years. On the final examination none of the students from these groups could be flunked no matter what their marks were. Good scholastic background was completely ignored. As a matter of fact, if a student with high scholastic standing applied, and it was found that he came of a middle-class background, or if anyone in the immediate family, for instance, grandparents, were independent merchants or farmers, he was refused admission.

In your opinion, has this affected the quality of the medical training?

From 1950 on approximately 90% of the student body consisted of those poorly educated people and consequently the standard of instruction in medical schools has sunk to an incredible degree.

"...standard of instruction sunk to an incredible degree"

How long is the medical school course?

The medical school course is five years. Upon graduation the student obtains a general medical degree. However, before being allowed to practice he must attend the clinics for 18 months' training. This is similar to your internship.

Does the medical school graduate have any hospital training?

Until recently he had some hospital training. This started in the third year of medical school, when the student attended a hospital or clinic for general practice during the summer months.

Does this system still prevail?

No, they recently made a change so that all students, including medical students, must go for military service. This eliminated the summer hospital or clinic training sessions. It did not, however, affect the 18 months' training after graduation.

NO CHOICE OF LOCATION

When a doctor is ready to begin practice, does he have any choice as to the location of his practice?

No, he is assigned to a specified area or post. Of course, those who cooperate with the Party will get better assignments, in larger hospitals or in research and other institutions. For instance, in the clinic at [redacted] where I took part of my specialty training, the State checked the background of all physicians. If you were of bourgeois background or did not cooperate with the Party, you were dismissed.



Operating room of the Kelenya Dispensary in an industrial suburb of Budapest.

In other words, cooperation with the Party is all-important?

Yes.

Are professors in the medical schools members of the party?

Most professors are members of the Communist Party only because it is necessary to hold the post.

Is specialization for a degree a formalized educational program of hospital training?

Yes, there is a formal program for specialized degrees. Specialized practice to fulfill requirements for a specialist's degree must be done in clinics approved by the university. The head of such a clinic must be at least a "private docent" at the university. A "private docent" is

"...everybody works for the State"

similar to a clinical professor in this country. A specialist has to be informed on literature of his specialty which appears in foreign as well as Hungarian periodicals. The specialist must finally pass a "specialized professional examination" which lasts for a week.

Does the State control this examination?

The State has nothing to do with this examination; it is handled exclusively by the professors of the university and the medical school.

How many years' training did you have in your specialty?

I had four years of specialized training, two years of which were in a clinic in the village of _____ and the balance in the clinic at _____.

Is there any private practice in Hungary?

There is no such thing in Hungary as private medical practice as you know it. Everybody works for the State. After the doctor has finished his day's work for the State he can sometimes get a few private patients.

How many hours a day does the State require?

In hospitals, usually from eight to ten hours a day.

LIFETIME SERVICE TO THE STATE

For how many years?

There is no limitation. It is a lifetime service one must render to the State. Naturally, those who cooperate with the Party get better appointments. In addition, the latter were permitted to do work of a political nature during regular office hours at the hospitals.

Of the 13,000 physicians in



"... I would like to go back to Hungary when the Communists leave there. I would like to spend some time in the U. S. . . to learn the language . . . to work and study in my specialty."

"...specialists get no more pay but work fewer hours"

Hungary, about how many are general practitioners as against specialists?

About 75% general practitioners and 25% specialists.

Do general practitioners in the smaller areas sometimes refer complicated cases to a specialist?

Yes, they do.

Is there a difference in the income of the specialist and the general practitioner?

The specialist does not get any more pay, but he works fewer hours.

Does the patient pay the doctor?

Medical services were free to all patients who came to the public clinics or the office of the doctor assigned to his area.

NO FREE CHOICE OF PHYSICIAN

There is no choice of physician?

Not on a free basis. The patient can go only to his area physician. The whole country is subdivided into areas and every area has its own physician. However, if you wanted a certain physician, and he maintained evening "private pratico" hours, you could see him and pay the physician's private fee. Naturally, not many people had the money to afford this.

What sort of equipment or medical apparatus does the average Hungarian general practitioner own?

Generally the same equipment as in this country, except that he doesn't own

the equipment. All equipment belongs to the State. In other words, if he moves, all his instruments are left behind.

Does the average doctor practicing outside of a hospital in one of these area groups have an x-ray machine?

No.

Were the equipment and instruments of Russian or Hungarian make?

I don't recall any that were manufactured in Russia. Mostly the equipment came either from Hungarian or East German factories.

In your opinion, was the quality of the instruments approximately the same as you have seen here?

Yes.

Does the physician assigned to an area do surgery?

In an average area office where there are no specialized offices for surgery or obstetrics and that type of thing, the general practitioners can do minor surgery and they usually do, and minor gynecological procedures. However, in a larger area office they will have specialized departments. The area doctor usually can do only general services.

SHORTAGE OF ANTIBIOTICS

Is there any shortage of drugs or medicines?

As an average, I would say there were shortages of medicines and bandages. In the area offices, however, there was usually an adequate supply of medicines with the exception of antibiotics. Only

"... antibiotics available only in largest hospitals"

penicillin was available because it was manufactured in Hungary. Of the broad spectrum antibiotics, these were available only in the largest hospitals. They were not available to the general practitioner. There is a form of black market of these antibiotics in Hungary, and it is usually in connection with people who have relatives in America. When the doctor knows of this, he writes out a prescription for the antibiotic and gives it to these patients. The patients write to their relatives in America and if they are successful in obtaining a package, turn it over to the doctor.

Does the general practitioner dispense drugs or write prescriptions?

Most general practitioners have some medicines on hand. However, most medicines are dispensed through pharmacies just as in this country.

Does the patient have to pay for these drugs?

He pays 15% of the price, the balance is paid for by the State.

Were medical procedures and therapy in Hungary similar to what you have seen in this country?

Yes. The composition of the more frequently used medicines in Hungary seems to be the same as here in America.

Are vitamins widely used?

No. The average patient can obtain vitamins only on prescription.

Are narcotics dispensed by license only or can they be freely obtained?

The Chief of Staff physician can give permission to buy the narcotics actually.

The Lying-in clinic of the University in Szeged, southeastern Hungary.



"... students with high blood pressure"

SEDATIVES WIDELY PRESCRIBED

Were sedatives and tranquillizers widely used?

I can hardly express in words the amount of sedatives and tranquillizers used. I would say that about 70% of all the medicines used are of these types. Of this large group treated with sedatives, approximately one out of five are students with high blood pressure.

How does the doctor account for this incidence of high blood pressure among students?

Young people of school age are overburdened with school work and school hours. They have approximately 12 hours a day in the school's various activities. Eight years ago that was six hours a day.

Are all drugs manufactured by state-owned companies?

There are no private factories in Hungary and all drugs are manufactured by state-owned factories.

Where does the Hungarian doctor consider the seat of medicine to be?

Budapest, in Hungary.

In the world?

Western Germany, the United States and Switzerland.

Are many Hungarian physicians American-trained?

Some, but few Hungarian physicians completed school here in America. Of course, up to 1949 there were always a certain number of students sent over here on scholarships.

What is the Hungarian name for these areas of practice we talked about before?

The area is called a "Korzet" and the title of the doctor assigned to an area is "Kororvos."

How many Hungarian medical journals are there?

Including the weekly and monthly medical journals I would say approximately twenty-five.

Are they distributed free?

The various institutions buy these periodicals for their libraries where they can be read. Individual physicians can buy subscriptions for their private use.

MEDICAL JOURNALS GOOD

Are the Hungarian medical journals good journals in your opinion?

In my opinion they are very good. As a matter of fact, some of the better articles are abstracted by German and American medical journals.

Do the American medical journals reach Hungary?

The American medical periodicals are available in university clinics and in larger hospitals.

Are the American medical journals translated into Hungarian?

There are meetings for physicians once a week in general hospitals and twice a week in the clinics. The chief physician assigns an individual to summarize the best American articles for the benefit of the rest of the group.

"...average suit costs approximately one month's salary"

This would presuppose that most doctors have a knowledge of English.

Not necessarily. The physician with this assignment can get the translation from other physicians who have a knowledge of English. It is usually the older generation of physicians who have a knowledge of English. In addition to summarizing the English article into Hungarian, the physician must look through the Hungarian literature and add any additional material related to the particular problem being discussed.

PHYSICIAN INCOMES

What is the average monthly income of the Hungarian physician?

There is a difference between doctors who work in hospitals and doctors who are assigned to areas. An area physician earns up to a maximum of 2100 forints. Physicians assigned to hospitals made even less than that, starting off with 1100 forints. If he were a general practitioner he could go up to 1600 forints in the hospital. If he had his specialty degree then his salary ranged between 1900 and 2050 forints. If the hospital physician completed his daily work for the State and if he could manage to maintain a private office in the evening, he could have private patients. This was the only way that he could earn more money.

How much could he charge these "private" patients?

In the country the average fee was between 15 and 30 forints.

The area doctor received 2100

forints a month, no matter how many individual patients visited his office?

Yes.

What is the rate of exchange of the forint?

The official rate of exchange, which doesn't reflect the true value of the money, is $11\frac{1}{2}$ forints for a dollar. (Black market quotations are approximately 100 forints for a dollar.)

Just as a means of comparison how much would a loaf of bread cost?

One and $\frac{1}{2}$ forints per pound of bread.

How much for an average pair of shoes?

300 forints.

The average suit?

About 1600 to 1800 forints, or approximately a month's salary for most physicians.

Less than 10 per cent of doctors own cars.



MEDICAL TIMES

"... Party functionaries have special sanatoriums, hospitals"

A large glass of beer?

About 1½ forints.

FEW CARS FOR PHYSICIANS

Do the doctors have automobiles?

There are approximately 13,000 doctors and only about 300 of them own automobiles. In order to obtain an automobile, a doctor had to request it from the State Council, the highest administrative body of the country.

Did membership in the Communist Party help to get an automobile?

The primary reason to get a license to own an automobile was Party membership and full cooperation with the Party. However, some physicians who were assigned to the country and whose area covered a large territory (some of them covered as many as eight widely separated villages), eventually got permission to have an automobile.

The monthly salary of a lawyer and an engineer would approximate what figure?

The salary of a lawyer or engineer starting practice ranges from 1100 to 1300 forints.

Skilled Laborers?

A skilled laborer's average salary was between 1000 and 1300 forints. Of course, this is average, which means there were higher salaries and lower salaries among skilled workers too. In general, in Hungary, the average salary of an employee was between 900 and 1100 forints.

THOSE "EXPENSE" ACCOUNTS

What was the salary of the Party secretary?

An average Party secretary's salary ranged between 1500 and 2000 forints, depending on the assignment. However, all of them had expense accounts and nobody knew for certain how much money they actually spent. It was generally believed to be a large amount, however.

When a doctor was able to maintain a private practice after hours, where did his patients come from?

Usually the few people with higher income who wanted better medical service.

Approximately what is the population of Hungary?

The population of Hungary is 10 million.

Do all physicians have to join the Party?

Physicians in general do not have to be Party members.

BETTER TREATMENT FOR PARTY WORKERS

Do Party workers get preferred treatment?

For Party functionaries there are special sanatoriums, usually located in the most picturesque part of the country. These have the most up-to-date equipment and service, including five meals a day. These special sanatoriums, while owned by the State, were under the immediate management of the trade

unions. Among the regular state hospitals some were especially designated for party functionaries and party secretaries who came from all over the country. Like the special sanatoriums, these had the most up-to-date equipment, and the best in food—including American medicines. For instance, their medical staff would consist of about twice as

many physicians as would be on the staff of a general hospital for non-party workers.

Where are some of these special institutions located?

Some that I recall were in Galyateto, Kekesteto, Matrahaza, Mecsek Uduto, and Javorkut.

Second World Conference on Medical Education

The objective of the Second World Conference on Medical Education will be an exchange of information to assist in raising the standards of medical education in the world.

The theme of the conference, which will be held from August 30 to September 4, 1959 in Chicago, will be "Medicine—Life Long Study," a conference on the continuing education of the doctor after graduation from undergraduate medical schools.

The Conference Format will be as follows:

FIRST DAY—Plenary Session to include speakers to review the First Conference on Medical Education (London, 1953) and tie the two conferences together.

SECOND, THIRD AND FOURTH DAYS—Sectional meetings.

Section I—Basic Clinical Training for all Doctors

Section II—Advanced Clinical Training for General and Specialty Practice

Section III—Training for Research and Teaching

Section IV—Continuation Medical Education

LAST DAY—Plenary Session

LANGUAGES—English, French and Spanish. German to be added if indicated and feasible.

This Second World Conference on Medical Education will be convened under the auspices of The World Medical Association with the collaboration of the World Health Organization and the International Association of Universities. National Medical Associations and Medical Schools of the world are invited to assist in planning this conference; recommending topics and well-qualified speakers to participate; sending representatives to attend, and providing publicity relative to it.

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Erythroblastosis Fetalis

This summarization attempts to cover the essential information on the subject, including therapy, and is designed as a time-saving refresher for the busy practitioner.

Erythroblastosis fetalis is a hemolytic disease of fetal or neonatal life due to maternal isoagglutinin in serum. Three syndromes, congenital anemia of the newborn, icterus gravis, and hydrops fetalis, are characterized by familial incidence and varying degrees of blood destruction as indicated by anemia, bilirubinemia, red cell immaturity, hepatosplenomegaly, and extramedullary hemopoiesis. These syndromes form a continuous series of mild to severe disease which is due to isoimmunization of the fetus due to several erythrocytic antigens. The term "erythroblastosis fetalis" is not as satisfactory as "hemolytic disease of the fetus and newborn" because erythroblastemia is an inconstant feature while the hemolytic process is typical of the disease.

The establishment of hemolytic disease is based upon:

1. Immunization of the mother by fetal agglutinins.
2. Maternal production of anti-agglutinins.
3. Passage of this substance into the fetal circulation.
4. Destruction of fetal erythrocytes due to a specific reaction with the anti-agglutinins.

Rh refers to a factor present in human red cells, discovered in 1940 by Landsteiner and Wintrobe, through the use of anti-Rhesus sera prepared by the injection of rhesus monkey red blood cells in rabbits, guinea pigs, and other animals. The sera from these animals was found to agglutinate 85% of human (white) red blood cells.

A moment now for a quick review of basic science. Antigen may be defined as a substance which causes the production of an antibody and an antibody is a serum protein which is produced in response to an antigen. Antibodies may be divided into two main groups, the multivalent and the univalent. A "blocking antibody" is an univalent antibody which does not produce an expected reaction. Investigation has shown that simple anti-Rh agglutinins which produce clumping of Rh positive red cells first appear and after repeated sensitization an antibody appears which does not give the expected clumping but which blocks or interfered with the reaction. Investigators assumed that the Rh receptors on the surface of the Rh positive red cells were coated by, and saturated with, an another form of antibody, so that subse-

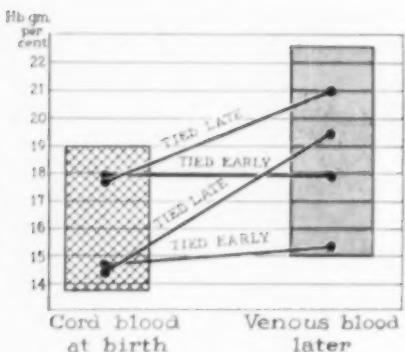


FIG. 1. Chart showing the wider range of normal variability in the hemoglobin of venous blood taken a few hours after birth as compared to the narrower range in normal values in blood taken from the cord at birth. (After P. Levine)

quent reaction with agglutinins were "blocked." Coombs then came along with an ingenious test. Since these Rh positive cells were sensitized with a deposit of globulin, Coombs showed that they can be agglutinated with the serum of a rabbit previously immunized to human globulin. This test was described in 1945. There are two Coombs tests, the direct and indirect.

The direct Coombs test is the addition of anti-globulin serum to washed patients' red cells. If these cells have been sensitized by human isoantibodies then clumping will occur.

In the indirect Coombs, the patient's serum is tested for the presence of an antibody by incubating selected normal red cells in patient's serum then testing these red cells by using anti-globulin serum (Direct Coombs).

Besides the applicability of the Coombs test to Rh antibodies, the isoantibodies found in acquired hemolytic jaundice and the hemolysin from patients with paroxysmal (cold) hemoglobinuria may be detected.

Morton and Pickles found that saline suspended sensitive red cells treated with trypsin could be used for Rh determination, however, it does not replace the indirect Coombs test in detecting the rare antibodies outside of the Rh system as Duffy, Kell and Kidd factors.

Once an Rh factor was discovered, more followed and the confusion of terms and genetics followed. Wintrobe began with his Rh, rh', rh'', etc., and Levine followed finding additional factors in Rh negative blood which were responsible for intra group sensitization in Rh positive individuals and he called these the Hr antigens. Wintrobe postulated the theory that the genes responsible for the various antigens occupy a single locus, these being a series of multiple alleles. Fisher and Race simplified a bulky and confusing system by proposing a theory that three genes are responsible for the Rh antigens, each having at least two alternative forms called C or c, D or d, E or e. Thus, all Rh factors are designated by the capital letters C D E while the Hr factors are designated by the small letters c, d, or e. Other alternatives have been found and are called C*, C^a or C^v.

Wintrobe

R^a, R^b, R^c, etc. + + + r, r', r'', etc.

Fisher—Race

C	— —	— —	c
D	— —	— —	d
E	— —	— —	e

While none of the genetic theories have been proven, several predictions based on Fisher's theory have been found true. Thus it is clear that there are six common Rh antigens each of these capable of stimulating antibody production, but anti-D occurs most frequently.

quently and may be due to 95% of all dangers due to Rh blood groups.

The Eight Rh Types in White Population

Wintrobe	Fisher	%
rh	cde	13.4
rh'	Cde	1.1
rh''	edE	0.4
rh' rh'' (rhy)	CdE	0.02
Rho	cDe	2.5
Rh' (Rho')	CDe	51.2
Rh ₂ (Rho'')	cDE	16.5
Rh ₁ Rh ₂ (Rh ₂)	CDE	14.9

Rhesus incompatibility is a risk run in about one-eighth of pregnancies with harmful antibodies developing in 1 in 200. A further 5-20% of maternal sera contain anti A or B antibodies incompatible with infant's cells with hemolytic disease developing in a small number.

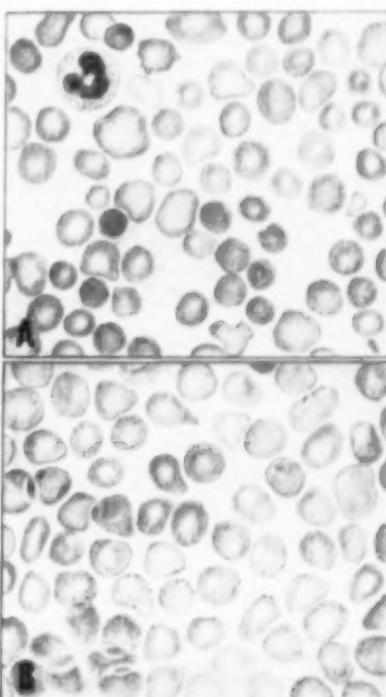
Before exchange transfusions kernicterus occurred in 30% of erythroblastoses. Schmorl in 1903 described the pathological changes in the basal ganglion and introduced the term kernicterus. The deep jaundice of the second to sixth day of life is accompanied by lethargy, loss of Moro reflex, poor feeding, head retraction, eye rolling, squint, opisthotonus, hyperpyrexia, convulsions, and respiratory failure. A hypotonic phase usually follows in the one third who survived the acute phase and this was succeeded by choreoathetosis with or without deafness and in some cases mental retardation. The occurrence of kernicterus is closely related to the degree of immaturity of the infant, the maternal antibody level, the sex of the infant (more males are effected), and the level of the serum bilirubin. The level of the serum bilirubin has attracted the most attention during the

past few years, but Mollison and Catbush found previously that cord hemoglobin values gave an indication of prognosis. A chart found in Gellis' article in Pediatric Clinics shows the relation of serum bilirubin to kernicterus.

Serum Bilirubin	% Kernicterus
0—5 mg. %	0 %
6—15 "	3 %
16—30 "	13 %
30 + "	50 + %

Waters and Claireaux have shown that indirect reacting plasma bile pig-

FIG. 2. Microscopic drawings showing the contrast between (A) microspherocytosis in A-B hemolytic disease of the newborn to (B) macrocytosis in severe Rh hemolytic disease of the newborn. (after P. Levine)



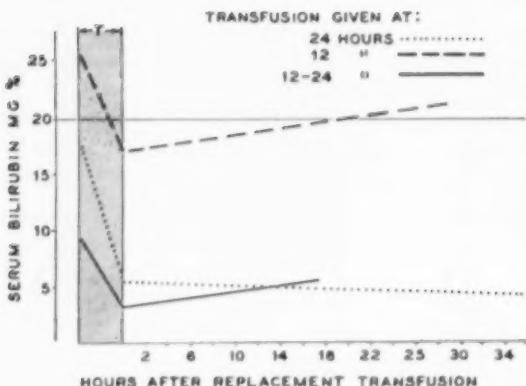
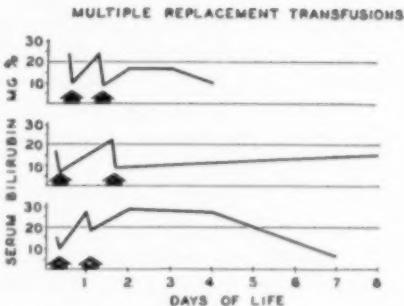


FIG. 3. Graphs showing results of single and multiple replacement transfusions. (after Arnold, Witebsky, Selkirk and Alford)

ments are present in high quantities in affected brains and review the evidence that this substance is damaging while the direct acting bile pigments are innocuous. Recently Abelson has shown that there is an abnormal plasma heme product in erythroblastosis and that, perhaps, tissue bilirubin levels may be related to its concentration. It is interesting to note that while an adequate exchange transfusion of 50-60 ml/lb removes 85% of the infant's blood, it drops the serum bilirubin by only 30 to 50% because, perhaps, the bilirubin is added to the plasma from the body tissues.

The red cells in the erythroblastotic infant are microcytic and a reticulocytosis is present as well as erythroblastemia.

The management of an erythroblastotic infant begins with its anticipation by Rh typing all pregnant females. A rising titer of maternal antibodies is not an indication for premature delivery since erythroblastosis in prematures carries a peculiar greater risk of kernicterus plus the usual problems of prematurity. If the history is



such that no previous pregnancy has been carried to term and were productive of hydrops then cessation of pregnancy at the 38th week could be considered. A maternal titer of 1:16 or more is considered significant but it must be remembered that this alone does not establish a diagnosis.

Cord hemoglobin, Coombs, and serum bilirubin are good guides of hemolytic disease. If the Coombs is positive and the cord hemoglobin is less than 14.8 grams (Walker) or 13.5 (Diamond) then exchange is necessary. Nelson states that a cord hemoglobin under 15 grams and/or a bilirubin of over 3.5 mg. % is significant.

FIG. 4. A good type of bed to use for exchange transfusions. The baby is restrained by folded diapers placed around each arm and leg then tucked under mattress. (after Diamond, Allen and Thomas)



Of course, clinically, jaundice during the first day of life, pallor, petechia, hepato-splenomegaly, and edema are all to be watched for. Some pitfalls to be avoided are: 10% of erythroblastotics are typed negative when they should have been positive. A positive indirect Coombs indicates indirectly that the infant is Rh positive when the maternal serum is known to contain antibodies. Rh + immature infants, particularly males, are more susceptible to kernicterus and should be closely watched. Serum bilirubin levels are important determinations since clinical jaundice frequently lags. Apparently mild cases can change and be severely affected and, therefore, we must be willing to check and change our evaluations. Extreme dyspnea from atelectasis or obstruction is a contra-indication, but remember that dyspnea can occur because of cardiac failure and an exchange may be life saving. Repeated exchanges are not infrequent and attempts should be made to keep the bilirubin below 20 mg. The blood used must be as fresh as possible, not more than four days old because of increased plasma levels of potassium and indirect bilirubin. Diamond reports female donors had better results, others find no difference.

Nelson states that the blood should always be shown to be compatible with the infant's mother by indirect Coombs

and if this requires that group O blood be given to a group A or B infant then A-E group specific substance should be added.

Walker likes to adjust the hemoglobin of donor blood to 17 grams by removing plasma while Diamond prefers a small transfusion at the end of the procedure. One author mentions that anemic infants tolerate this small dividend poorly and, therefore, venous pressures are vital in exchanging them.

Early clamping of the cord in order to lower blood volume has been advocated, but the value of this procedure is questioned.

The technique of exchange need not be mentioned except in passing. The umbilicus is preferred by many because of its availability, the lack of a surgical incision, easy maintenance of blood volume, and an available method of determining venous pressure. The disadvantages are sepsis, air embolism, thrombosis of the portal vein, and perforation of the umbilical vein—all of these are rare. Other routes used are the saphenous vein and the Weiner method using the radial artery and ankle vein. The mechanics of the exchange will not be discussed and supportive measures are obvious.

The post exchange care should include antibiotics, Vitamin K, serum bilirubin and hemoglobin levels. The

use of steroids leaves room for discussion as does breast feeding.

Haymen and Pickles agree in disagreeing with Diamond that after the acute phase the slow continuing fall and plateau of the hemoglobin curve is above all the result of growth and increasing blood volume. Recently Giblett has shown impaired erythropoiesis.

All authorities agree that simple transfusions are not necessary until the hemoglobin has fallen to 6-8 grams, usually between the ninth and twelfth week.

The differential diagnosis of jaundice should be mentioned.

Toxoplasmosis, cytomegalic inclusion

disease, sepsis, congenital syphilis, thrombocytopenic purpura or congenital leukemia may be the cause of jaundice during the first twenty four hours.

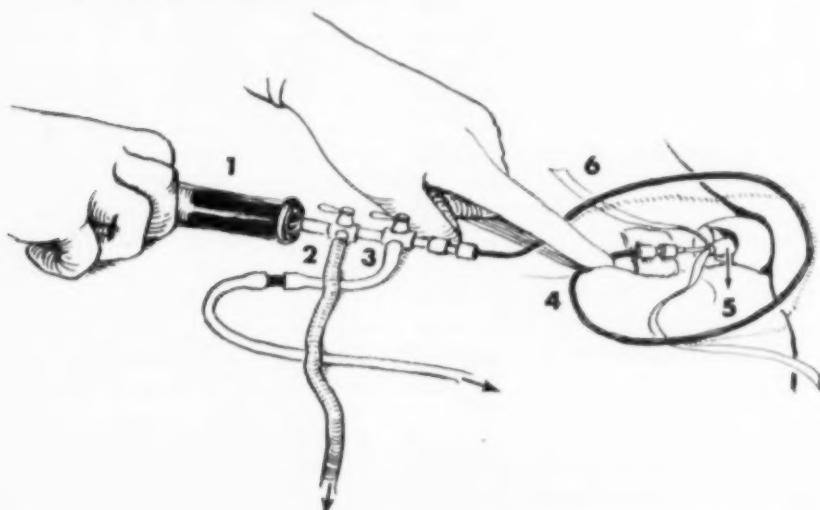
Physiological jaundice of a severe degree has been mentioned frequently as requiring an exchange transfusion if the bilirubin is above 20 mg. %.

A—B—O Incompatibility

In most cases the mother belongs to group O and the infant to A or less commonly B. The hemolysis being caused by maternal antibodies (anti A or anti B). This can also occur if a group A mother has a B or an AB child or a group B mother has an A or an AB

FIG. 5. Apparatus used for replacement transfusions. (after Diamond, Allen and Thomas)

1. 20 cc. syringe with donor blood.
2. Thin-walled rubber tubing (about 4 ft. long) attached to the side arm of a three-way stopcock to serve as an exhaust tube.
3. Short length of thick-walled rubber tubing attached to a three-way stopcock at one end and joined at the other end by a glass adaptor to the tube coming from the donor blood.
4. 18-gauge polyethylene tubing attached to the male end of stopcock and running through a Tuohy Adapter to an umbilical-vein cannula from which it protrudes about 0.3 cm.
5. Stump of the umbilical cord with cannula in place.
6. Cord tape knotted around cord stump.



child. A glance at the following table will explain this:

Genotype	Phenotype	Antibody
AA	A	}
AO	A	Anti B
		}
BB	B	}
BO	B	Anti A
		}
AB	AB	Neither
OO	O	Anti A and Anti B

Previously called "icterus praecox" the icterus usually develops by the 36th hour; anemia is mild. There may be increased osmotic fragility, reticulocytosis, spherocytosis and hyperbilirubinemia. The Coombs may be negative or weakly positive. The possibility of kernicterus (incidence 5%) demands exchange of the bilirubin above 20 mg.% using Group O blood of the appropriate Rh type with added A-B substance.

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at "Coroner's Corner" Page 29a

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MEDICAL TIMES

Hypnosis

First Aid in Major Hysteria

ARTHUR M. KNIGHT, JR., M.D.
Waycross, Georgia

One might well ask why this subject is being discussed in a general medical journal and by an internist. In answer, the author has proved in his own experience that the diagnosis of hysteria is easy, that no special training is required to learn the technic of hypnosis, that major hysterical symptoms can be eliminated by hypnotic suggestion, and that pain, invalidism, and occupational disability can be relieved and the patient restored to normal productive activity by this technic, which the author regards as first aid rather than definitive therapy. Admittedly, the relief of the major symptom (paralysis, anesthesia, blindness, aphonia, etc.) does not cure the psychoneurosis, and these patients require prolonged psychotherapy by a psychiatrist before they can be regarded as well. But there are a number of reasons why it is desirable for the first doctor who is seen to relieve the presenting hysterical symptom.

It was repeatedly demonstrated during World War II and during the Korean conflict that treatment for hysteria should be administered as promptly as possible after the onset of the clinical symptoms.¹ Army psychiatrists who worked almost immediately behind the lines were able to hypnotize their

patients in spite of the nearby battle and obtained very gratifying results, often returning soldiers to duty within a day or two, and thereby eliminating prolonged periods of hospitalization and disability during which the symptoms might become fixed and much more difficult to relieve.²

It is not always easy to refer a patient to a psychiatrist. Almost all patients offer resistance, and some steadfastly refuse to see the psychiatrist. There are not nearly enough psychiatrists to take care of all the patients who need their help. Few communities of less than 50,000 population have a resident psychiatrist. Patients often have to travel as much as 100 miles to reach one. And the psychiatrist has a very busy schedule, many of the best men having their appointments filled for as long as the next three to six months. Psychiatric treatment is expensive and many patients cannot afford it. State institutions are over-crowded and under-staffed, and free clinics are too few in number. For many business men, professional people, and housewives, it is impossible to spare the necessary time away from duties and responsibilities to spend even two weeks in a psychiatric hospital.

The physician who first sees the case is usually asked to do so by the patient himself; therefore, the physician-patient relationship is ideal. The patient has come for help and expects the doctor to give it. On the other hand, the psychiatrist to whom such a patient might be referred has to break down certain emotional barriers before positive transference can be obtained. Thus, there are many reasons why the first physician who sees the hysterical patient should try to relieve his main symptoms: delay is avoided; economy is effected; chronic disability is prevented; and it is easier and simpler.

What is the value of relieving the presenting complaint without curing the underlying neurosis? The patient is restored to his normal duties and activities without delay. He is given insight into the psychogenesis of his ailment. Chronicity and resulting fixation of the symptoms are prevented; unnecessary surgical procedures ("polysurgical addiction") are often avoided; and the task of the psychiatrist who will eventually treat the patient is made much easier.

Hysteria is an emotional disorder in which mental conflicts are converted into somatic symptoms, which permit the patient to relegate to the unconscious the anxiety and the conflict responsible for it. The manifestations are physiological but their origin is psychological.³ The nature of the symptoms is often determined by the type of disability that will be most useful in satisfying the unconscious purpose they are designed to meet. The symptoms may be sensory, motor, or visceral, consisting of such complaints as anesthesias, paresthesias, blindness, deafness, pains, headaches, weakness, fatigue, paralyses,

contractures, vomiting, anorexia, dysmenorrhea, and even amnesia and fugues. The patient at times demonstrates a remarkable lack of concern (*la belle indifférence*) about his apparently serious disability.

Hypnosis is a trance-like state which can be induced by suggestion.⁴ The hypnotist-subject relationship is entirely one of voluntary cooperation; no subject can be hypnotized against his will or without his cooperation. Erickson has observed no detrimental effects in hundreds of subjects, some of whom have been hypnotized hundreds of times.⁴ The subject's fears and misapprehensions should be allayed and he should be given a preliminary explanation of what he can expect. The lights are turned low and the room is made as quiet as possible. The patient is made comfortable. The author's method is to ask the patient to keep his eyes fixed on some object held in the physician's hand, such as a fountain pen. The patient is told in an authoritative voice, "You can see nothing but this pen, you can hear nothing but my voice, and you know that what I say is true." He is then given repeated suggestions that he is tired, sleepy, comfortable, and relaxed. He is told that his eyes are heavy and that he has a great desire to fall asleep. Finally, when these suggestions have been repeated a number of times, he is told that the doctor is going to count to five, and that he will find himself sound asleep on the count of five. Now, in order to test whether he is "asleep" or not, he is told that at the count of three his arm is going to rise up over his head and that he cannot prevent it. If this occurs, one can be sure that the subject is in a trance; if it does not, the original suggestions

must be repeated monotonously, quietly, persuasively, and with assurance and authority until a trance state is produced.

When one is satisfied that the patient is in a deep enough trance, therapeutic suggestions are made. The patient with a paralyzed arm can be made to move the arm; the mute patient can be made to talk; the anesthetic patient can be made to feel. The patient can be made to discuss unconscious or "forgotten" worries, fears, anxieties, conflicts, and other sources of tension (provided "deep" enough hypnosis can be induced). He can be made to forget what he has said or to remember it in the post-hypnotic state, as may seem wiser or more desirable. He can also be given post-hypnotic suggestions for therapeutic purposes. For example, the patient with "paralyzed" legs can be told that he will find himself able to walk when he wakes. The author also finds it wise to tell the patient that he will feel comfortable, relaxed, free from pain, and generally well in every way when he wakes. It is then very easy to wake him by telling him he will wake when one snaps one's fingers or when one counts to a certain number.

Although Murdock states⁵ that most psychiatrists "have not seen a good old-fashioned major hysteria for years," the author believes that general physicians and internists share his experience of seeing several cases every year. Two illustrative cases will be reported here.

Case 1. L.B., a 22-year-old white, married female was first seen on April 1, 1953, complaining of paralysis and anesthesia of the left arm and left leg of one week's duration. She said that the paralysis came on suddenly when she was "worrying, crying, trembling,

jerking all over, and shaking like a leaf." The left leg "began to draw up like something was pulling it up under me." She called her mother-in-law to rub it, whereupon it became completely paralyzed and had remained so ever since. The left arm did not become weak until the following day and was not paralyzed completely until the third day, at which time it was completely anesthetic. Further questioning revealed that she had many acute marital problems. She was a dependent type of personality, having been an illegitimate child, rejected by both parents, and reared in an orphan's home. She had many uncontrollable fits of rage. On the day on which the paralysis developed, she had struck her baby so hard that his mouth bled.

Complete physical examination was negative except for the anesthesia and paralysis of the left arm and leg, which made it necessary for her to be lifted bodily from place to place. There was complete anesthesia of the stocking-glove type of distribution involving the left upper and left lower extremities. Knee-jerk and ankle-jerk were absent on the left with reinforcement. Complete blood count, urinalysis, sedimentation rate, Kahn, blood sugar, chest x-ray, spinal fluid dynamics, and spinal fluid analysis were all normal.

She was hypnotized very easily. In the hypnotic trance she was commanded to move her left arm about and to stand up and walk, all of which she did. She was told that she was going to be able to move her arm normally, that the sensation would return in her extremities, and that she would be able to walk normally when she awoke. Members of her family were permitted to see her moving her arm normally and walking

in the hypnotic trance. She was awakened while she was standing. Although she had to be lifted into the office, she walked out normally under her own power. The anesthesia and paralysis were completely relieved. Although her psychoneurosis was unchanged, she was able to resume her household duties and the care of her four small children. About one month later, in a period of great emotional stress, the symptoms returned. Hypnosis was easily induced and the symptoms were again relieved. They have not subsequently returned.

The above case illustrates relief of major hysterical symptoms of recent onset. In the next case the symptoms were of five months duration but were relieved with equal ease.

Case 2. J.J., a 23-year-old, colored, male embalmer, was first seen on November 23, 1954, at the request of the Division of Vocational Rehabilitation, because of inability to speak since June 16, 1954. He was able to communicate with others only in writing and this disability had rendered him unemployable. The history revealed that all of his close relatives, consisting of his father, mother, wife, and baby daughter, were in an automobile accident on June 16. The patient was told that they were all dead. He had not been able to utter a sound since that event. This aphonia had persisted without intermission. He stated that he had always been a dependent person, leaning on his wife and mother for advice. He had always been nervous, shaky, fearful, and easily upset if he saw someone hurt. He had tried to embalm his own wife but became sick, fainted, and had to give it up.

Complete physical examination was not remarkable. Mirror laryngoscopy revealed normal vocal cords. On at-

tempted phonation there was a failure of the cords to meet in the midline.⁶ The finger-nails were bitten short and the hands and feet were wet with perspiration. Complete blood count, sedimentation rate, Kahn, urinalysis, and chest x-ray were negative.

He was very easily hypnotized and, when he was given the suggestion that he could speak, he began to speak very easily and very clearly. His first words were, "Mama, Mama, Mama," and were said with deep feeling and with tears streaming from his eyes. He was made to describe and react the emotionally traumatic experiences of June 16. Thereafter, he was given the suggestion that he would feel well and would be able to speak normally when he awoke. When he was brought out of the trance, he was able to speak as well as ever and was quite euphoric. He was now able to get a job to earn money to support himself and to pay for psychiatric treatment.

Comment These cases demonstrate that a physician untrained in hypnosis can nevertheless learn to use this technic of relieving disabling symptoms of major hysteria. The patient in Case 2 had been to several well-known clinics in large cities without being relieved of his aphonia. No harm was done to either patient. Both were advised to seek psychiatric treatment. Both were returned promptly to their normal activities instead of being permitted to continue as invalids.

Summary

1. The reasons are pointed out why it is desirable for the first doctor who sees a case of major hysteria to relieve the presenting symptoms.

2. It is shown that referring these patients to a psychiatrist is difficult and sometimes impossible.

3. The point is made that relieving the presenting symptom does not cure the psychoneurosis and that the patient still needs psychiatric treatment.

4. The value of relieving the conversion symptoms without treating the underlying emotional disorder is appraised.

5. A brief definition of hysteria is given.

6. Hypnosis is defined and a simple technic is described.

7. Two illustrative cases are reported.

8. It is demonstrated that physicians untrained in hypnosis can

learn this technic of relieving major hysterical symptoms.

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Cincinnati Academy of Medicine Centennial Celebration to Be Held Feb. 27

The Academy of Medicine of Cincinnati cordially invites all physicians, their families, and their patients to its 100th Birthday Party, February 27 through March 5, 1957.

The ribbon cutting ceremony for the Centennial Exposition will be conducted by the Honorable William O'Neil, Governor of the State of Ohio, at 9:00 A.M. on Wednesday, February 27, 1957.

Dr. Paul D. White and Dr. Walter Alvarez, noted medical scientists and authors, have accepted invitations to be among the distinguished guest speakers.

The Centennial Convocation will be held on the last night of the Exposition, March 5, 1957. The Convocation address will be given by Sir Edward Appleton, Nobel Laureate, Edinburgh, Scotland.

Emotional Aspects of Cardiovascular Disease

MAXWELL L. GELFAND, M.D.
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The role of the emotions in cardiovascular disorders has been known for a long time but has not been adequately stressed. The cardiologist's office is the place par excellence where emotional pathology is daily unfolded. Weiss¹ emphasized the fact that in spite of the enormous incidence of cardiovascular disease, the majority of patients who present themselves with symptoms referable to the heart region do not have any evidence of an organic cardiac disorder. This is not difficult to understand, as, from time immemorial the heart has been the traditional seat of the emotions, closely linked and identified with man's loves, fears and deepest feeling.² Our language contains innumerable expressions as evidence of this intimate association. It is not only in the lines of our lyric poets that "the heart leaps for joy and is broke by grief", that "it palpitates with love and stops in terror", or that "fear drives it up into the mouth and depression down into the boots", but these utterances have become so much a part and parcel of our everyday conversation that they constitute a commonplace.

During the Middle Ages as well as throughout the Renaissance almost all forms of cardiac disease were thought to be exclusively due to emotional disorders. This concept stemmed from the influence of Plato's teachings that all bodily ills proceed from the spirit.³ In the 18th century Zimmerman⁴ and various other pathologists who engaged in post-mortem studies appeared to confirm this general idea and to support such concepts as death resulting from a "broken heart" in cases where cardiac rupture was found in the grief-stricken or of "hardness of heart" in pericarditis in individuals notorious for cruelty. Later it was likewise believed that emotion was the most important cause of heart disease. The cause of cardiac and aortic dilatations was confidently stated to be the driving inward of the bodily humors during psychic stress. Frequent mention was made of the sudden development of dropsy, cardiac hypertrophy and aortic aneurysms immediately following a single severe emotional upset. As far back as the French Revolution the increase in heart disease was believed to be directly attributable

to the disorder of the times. A noted authority at that time stated with assurance, "It is not surprising in the present day when the worry of life and strain on the feelings in all ways are so vastly intensified, that there should be strong evidence to show the increase of cardiac affections". How closely this parallels the conditions of our own day!

There is no doubt in the minds of most cardiologists at present that emotional upsets—and this term is here used collectively, to include anxiety, rage, hostility, resentment, fear, and perhaps joy—*influence the circulation*. They see evidence of this in their daily practice but are somewhat perplexed by the apparent lack of physiologic data to explain their clinical observations. A review of the literature, however, will prove very rewarding, for there is a host of experimental evidence to indicate that the emotions can produce a variety of circulatory phenomena: 1. alterations in the peripheral vascular system, consisting of vasoconstriction of the cutaneous vessels of the hands and feet, leading to stasis and deoxygenation of the capillary blood, 2. changes in the cardiac rate and rhythm, 3. increased cardiac output and circulation time, 4. angina due to coronary artery constriction, 5. syncope resulting from either strong vagal discharges producing bradycardia, heart block⁶ or ventricular escape, or from sympathetic discharges causing fall in blood pressure, 6. hypertension, 7. increased liberation of the antidiuretic hormone, 8. enhanced activity of the pituitary and adrenocortical mechanisms, with rise in the secretion of the adrenocortical hormones and 9. a number of alterations in the electrocardiogram.

In view of such a multiplicity of

physiological activities, it is no wonder that the cardiovascular system responds so frequently to disturbances arising from the turmoil of everyday living. Fortunately the heart is a remarkable organ possessing a great capacity to rebound to its normal state. But in individuals with underlying structural cardiac disease far more damage is done than we can estimate with the technics at our disposal.

In a discussion of this kind a few words about the nerve supply of the heart and the control of cardiac function by the nervous system are in order. As is well known, nerve fibers from both the vagal and the sympathetic chain enter the cardiac plexuses, where they become thoroughly intermingled. Sympathetic nerve fibers converge upon the S-A and A-V nodes but are also widely distributed throughout the muscular walls of both the atria and the ventricles. The epinephrine-like substances released at these nerve endings accelerate the heart rate and increase myocardial irritability and contractility.

Terminals from the vagi are also concentrated near the S-A and A-V nodes and are widely distributed to the atria and the bundle of His with his branches. Although the ventricular walls are generally believed to be devoid of vagal fibers, parasympathetic discharge plays an important role in regulating coronary flow. Acetylcholine secreted at vagal nerve endings produces coronary constriction and may diminish myocardial contractility, as well as depress pacemaker activity. Impulses continuously descend the vagus and sympathetic nerves, exerting the proper control on the heart. By varying the vagal and sympathetic "tone" they adjust the heart rate, coronary blood flow and

myocardial contractility to meet the requirements of the moment.

On the floor of the fourth ventricle in the medulla oblongata there are two vaguely defined regions which have a powerful effect on the cardiac rate. One is the cardio-accelerator center, producing faster heart beats, and the other, adjacent to it, is the cardio-inhibitor center, causing slower beats. The cardio-inhibitor center is in close anatomic relationship with the motor nuclei of the vagus nerves. The vagus and sympathetic nerves conduct impulses which result from a more or less continuous bombardment of the cardio-accelerator and cardio-inhibitor centers by afferent nerves from all over the body. Impulses from the cerebral cortex impinge upon both these centers, and this clearly explains why excitement, fear, anxiety, and depression affect the heart rate without any involvement of the metabolic activity.

Clinically, the influence of emotional disturbances on the cardiovascular system may be considered along three lines—i.e., 1. on individuals with no known cardiac pathology; 2. on patients with structural heart disorders, in whom they exacerbate an underlying condition that appears well compensated or prolong a state of activity and interfere with response to accepted cardiac therapy; and 3. their role in the etiology of organic heart disease.

The first group of patients consists of those who are frequently labeled as suffering from functional heart disease. They are neurotic with cardiac manifestations and an unusual amount of anxiety in their make-up. Under special circumstances they focus this anxiety upon the heart, largely because they regard it as the all-important bodily organ

and associate it with the idea of sudden death. Usually there is a precipitating factor or event directly responsible for this exaggerated heart-awareness. Connor⁵ has suggested four different causes: 1. the statement by some physician or life insurance company that a certain abnormality, such as a murmur or irregularity of rhythm, exists, or the rejection of the applicant for life insurance on the basis of "high blood pressure", 2. the occurrence of some symptoms such as a skip, flutter or twinge of pain, calling the attention of the patient to his heart, 3. the occurrence among relatives or friends of a dramatic case of heart disease with sudden death, 4. a profound and protracted emotional disturbance, such as deep grief or prolonged anxiety.

Under these circumstances pain in the heart region, fatigue, sighing respirations or dyspnea, dizziness, palpitation or heart consciousness caused by tachycardia or other rhythmic disturbances, are apt to make their appearance. These signs and symptoms closely resemble those of true underlying cardiac disease.

The chest pain is hard to distinguish from that of angina pectoris due to coronary arteriosclerosis, and at times even the keenest clinician finds the differentiation difficult. The so-called classical triad that characterizes true angina—i.e., 1. its history of relationship to effort, 2. its short duration, and 3. its relief by nitroglycerin—helps to separate the two, but often the picture is confusing. Grollman⁶ as well as Hickman, Cargill and Golden,⁷ have shown that a considerable burden of extra work may be thrown on the cardiovascular system by emotional upsets and psychic disturbances. They found an increase in stroke volume, cardiac out-

put, pulse rate, blood pressure, oxygen consumption, and mean arterial pressure, the latter due to an increase in the cardiac index.

On the basis of these alterations, it is conceivable that a reduction of diastolic filling will result in an insufficiency of the coronary circulation, with its ensuing chest pain, entirely independent of any underlying coronary-artery pathology.

Wolf and Wolff* studied the cardiovascular and respiratory functions of healthy human subjects, with special emphasis on their reactions to the persistent low-grade stresses and strains which are a part of every-day living and found the following:

1. Dyspnea, with inefficient pulmonary ventilation, may occur in response to stress-producing life situations in association with anger, fear, anxiety, frustration, guilt, and tension.

2. Palpitation, with increased stroke volume, may be produced under similar circumstances.

3. Cardiac pain in the presence of anatomical narrowing of the coronary arteries may result either from increased work of the heart attendant upon prolonged elevation of blood pressure and cardiac output in association with rage, frustration, resentment, anxiety, tension, and fear, or from a decrease in cardiac output and coronary blood flow caused by desperation and defeat.

4. Giddiness and faintness may follow cerebral anoxia due to diminished venous return to the heart or hyperventilation followed by cerebral vasoconstriction, impaired dissociation of oxyhemoglobin and cerebral anoxia. Both types of the latter occur in response to stress-producing life situations, in association with feelings of exhaustion,

anxiety and fear during the early part of convalescence.

5. Fatigue as experienced by such patients is a complex state dependent upon the emotional attitude, the absence of a dominant motivation for living and the presence of a stress-producing life situation, with an accompanying inefficiency of the cardiovascular and respiratory functions.

6. Individuals differ as to the intensity and duration of their cardiovascular and respiratory responses to life situations. The fact that a single subject tends to react in many different ways, depending on the circumstances, suggests that he is manifesting various possibilities of dealing with his environment in terms of his cardiovascular and respiratory functions.

From these results the authors concluded that in a setting of adverse life circumstances and the associated emotional reactions the body's respiratory performance and cardiac effort are costly. This high price may manifest itself in cardiovascular symptoms which are not dependent upon gross structural heart disorders alone but can occur in a normal heart.

Hence, in evaluating the above symptoms which differ in no way from those of a true cardiac, an awareness of the effects of emotional factors not only on the performance of the heart but also on the individual as a whole will be extremely helpful in the formulation of a correct diagnosis and the choice of the proper therapy.

Another form of functional cardiovascular disease commonly known as "Irritable Heart," "Soldier's Heart," "Effort Syndrome," or "Neurocirculatory Asthenia" is of considerable interest. Friedman⁹ contends that this dis-

order is a genuine cardiovascular one affecting more civilians than soldiers and occurring more often in females than in males. He believes that all the terms previously employed to describe the condition are inadequate and has coined the term "Functional Cardiovascular Disease" (F.C.V.D.) to designate that syndrome of cardiovascular dysfunction which stems from an essential change in normal cortical and hypothalamic activities and relationship. The chief cardiovascular difficulties here encountered have long been recognized as those of: 1. precordial pain, 2. palpitation, 3. tachycardia, and 4. vaso-motor changes in the face and extremities. Tachypnea and dyspnea are additional features thought to be a result of the impairment of the heart. Most investigators are unable to detect any organic defect in the cardiovascular system and have found the heart and blood vessels of such patients basically sound both in structure and function. The fundamental integrity of the cardiovascular system, however, does not prevent the occurrence in these individuals of transient abnormalities primarily associated with, if not preceded by, an increased sympathetic activity which seems to be directly responsible. The frequent incidence of such increased sympathetic activity, with resulting cardiovascular phenomena, in the absence of effort, clearly invalidates the term "effort syndrome" as a designation for this disorder. Peripherally acting autonomic drugs have had no effect in precipitating its symptoms, whereas centrally acting caffeine and benzedrine, as well as emotion, have been successful in producing a distinct effect during the quiescent period of the disease. As a result, Friedman² suggests that these patients possess a heightened

activity or susceptibility on the part of the autonomic system at its centers, in the higher levels of the central nervous system. The fact that the hypothalamus contains the governing areas of the autonomic system forces him to believe that this site is a participating agent in the pathogenesis of the FCVD syndrome.

According to the same author, the diagnosis of FCVD is not difficult if one keeps in mind that it is exceedingly common in a subclinical form. The errors are made chiefly by those who limit their diagnostic acumen to the stethoscopic findings and who have a distinct aversion to admit the presence of a psychomotor disease.

Routine examination of neurotic subjects may not reveal the occurrence of any arrhythmia other than sinus arrhythmia but every cardiologist has seen occasional instances in which premature beats, auricular fibrillation, auricular flutter, paroxysmal supraventricular tachycardia, the Wolff-Parkinson-White syndrome, or minor degrees of heart block appear recurrently in emotionally unstable individuals without heart disease. Usually the arrhythmia develops in relation to some unusual stress or unpleasant life situations. Harvey and Levine¹⁰ reported a case of ventricular tachycardia with death following extreme fright. The arrhythmias seen in connection with emotion are usually produced by hyperactivity of the vagus nerve—i.e., those involving the S-A node, the auricle and the A-V node. In the case of premature ventricular beats the effect of circulating epinephrine on sympathetic stimulation must be considered.

Fear and stress, as well as other emotional upheavals, may cause electrocardiographic changes that are indis-

tinguishable from those of various organic conditions. Wolff¹¹ found tachycardia and T-wave changes consisting of inversion and in some instances of depression in 18 of 35 electrocardiograms taken during situations of stress. Such changes are usually considered pathologic, but their occurrence during the interview of the patient and their subsequent rapid reversion to normal clarifies the situation. Mainzer and Krauss¹² studied the influence of fear on the electrocardiogram, using as their subjects individuals who were about to undergo surgery. Out of 53 cases they found 24 who showed the picture of coronary insufficiency consisting of S-T depression and T-wave inversion or flattening, both likewise transitory and disappearing within 24 hours. They felt convinced that the changes were due to the effect of the vasoconstricting vagal action on the autonomic nervous system.

The second group of patients consists of those in whom structural disease of the heart is present. The part that emotion plays here, either in aggravating the underlying condition or in disturbing the existing balance of cardiac function, has been commented on by many writers. As mentioned above emotional stress may be accompanied by measurable changes in pulse rate, stroke volume, cardiac output, peripheral resistance, and arterial blood pressure, and anxiety may significantly increase the amount of work required by the heart. Moreover, stress is capable of producing physiologic alterations which diminish the myocardial reserve. During states of emotional tension the circulation in individuals with both normal and diseased hearts fails to recover adequately following exercise thus prolonging the period of increased work. Chambers and

Reiser¹³ studied 25 cases of congestive heart failure and were able to demonstrate that in 19—or 76%—emotional tension was the factor immediately responsible for increasing the work-load beyond the cardiac capacity. Although investigation proved that all the individuals in this series had marked diminished cardiac reserve from organic disease and had been living under severe chronic emotional strain, these factors alone were not felt to be an adequate explanation of the congestive failure in the majority of them. In 92% it was found that an added stress of acute and overwhelming nature superimposed on the chronic tension state and the diseased cardiovascular system had actually precipitated the acute episode.

Much has been written on the importance of emotion in hypertension and opinions vary. Most cardiologists are convinced that psychic factors are among the strongest to influence the course of the disease, while some internists and most psychiatrists feel that emotional strain actually causes essential hypertension. The first belief appears to be well authenticated, but the second is not securely based on observation. Since emotional upset does aggravate hypertension, the incidence of neurosis is high in patients with early or moderate hypertension. In addition, stresses of various types cause more marked and more persistent increases in blood pressure in the neurotic than in normal subjects. It has been demonstrated that anxiety in normal or neurotic individuals is accompanied by decreased peripheral resistance; the diastolic blood pressure is elevated only occasionally and for the most part remains unchanged or falls. The systolic blood pressure rises conjointly with in-

creases in cardiac output. These changes resemble the effects of injection of small amounts of epinephrine. There is convincing evidence, however, to show that in essential hypertension the peripheral resistance is increased, both systolic and diastolic pressures rising, while the cardiac output remains normal. From this it is evident that the cardiovascular physiology of essential hypertension differs from that caused by anxiety. Nevertheless, it is true that anxiety further elevates systolic blood pressure in hypertensive subjects and markedly increases cardiac effort. The fact that norepinephrine is also liberated during stimulation of the adrenal medulla is also important. This hormone acts entirely on the peripheral blood vessels, increasing peripheral resistance, without directly influencing cardiac output, thereby producing changes resembling those of essential hypertension. To assume that one adrenal medullary hormone alone—namely, epinephrine—is liberated only in the hypertensive is hardly reasonable. In spite of our uncertainty as to the manner in which emotion exacerbates hypertension, clinical observations have established the relationship between the two on a sound basis.

The possibility that an attack of acute coronary occlusion may be precipitated by the emotions has been alluded to above. Although many observers believe that such a mechanism is possible there are numerous others, including the author, who feel that this is rarely ever the cause of an acute coronary thrombosis.

The existence of a third group of individuals—namely those in whom emotion may be the actual cause of cardiovascular disease—is open to controversy.

There are some who believe that essential as well as malignant hypertension, may be brought about or initiated solely by emotional upset. Selye¹⁴ has produced evidence in laboratory animals to indicate that hypertension may be one of the diseases of adaptation and postulates that hypertensive disease may represent a manifestation of reaction to emotional stress. Psychoanalytic studies have revealed indications of severe and early psychologic trauma in patients with hypertension, and the findings suggest that the elevated blood pressure here may be an expression of suppressed and repressed hostility and rage. Weiss¹⁵ has reported several investigations which demonstrate that the onset of benign hypertension or the precipitation of the malignant phase were closely related to significant life situations. Wolf and his group¹⁶ have proved that vascular changes associated with hypertension may be produced in the kidneys as a result of anger, resentment, annoyance, rage, or other types of psychic upheaval. It is felt by many that emotional tension may affect the arterioles either through autonomic pathways (neurogenic responses) or by way of humoral mechanisms, or both. As long as we are still ignorant of the manner in which hypertension in man is initiated and sustained, there will always be discussion as to how much one factor or another contributes to the causation and development of this disease.

Another disorder of the cardiovascular system thought to be predominantly due to psychogenic factors is Raynaud's disease. The effect of stressful life situations in the precipitation of an attack of pain and cyanosis in the fingers was experimentally shown by Mittleman and Wolff.¹⁷ The fact that some cases had

been reported to respond satisfactorily to psychotherapy strengthened this concept. However, to consider this ailment as primarily one of emotional origin seems somewhat unconvincing to the writer.

From the above it is clear that the internist realizes that emotional factors play a significant role in the production of cardiovascular disease. As John Hunter wrote, "There is not a natural action in the body, whether voluntary or involuntary, that may not be influenced by the peculiar state of the mind at the time." It may be taken for granted that the course of any illness can be influ-

enced by emotional factors, and accordingly the physician must in every case seek evidence of their presence. It is essential for the cardiologist not only to be able to detect murmurs, properly interpret an electrocardiogram, accurately read an x-ray film of the heart and lungs, and be familiar with the newer technics of cardiac angiography and catheterization, but he must also understand the behavior of the heart under the ordinary stressful conditions of daily life and strive to learn as much as possible about the background and personality of each patient, in order to obtain the maximum benefit in every case.

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The Management of Hallux Valgus

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Hallux valgus is a bony deformity of the foot with a subluxation of the toe outward at the first metatarsophalangeal joint. The osteophyte which develops on the medial border of the distal end of the first metatarsal initiates the formation of an adventitious bursa which later, if constantly irritated by friction and pressure, may become subject to inflammation and may suppurate. It is the bursal involvement which usually causes the patient to seek treatment. Since the surgical treatment for this condition is successful in better than 90% of the operated cases,¹ it is regrettable that any bunion patients be casually treated by strapping and padding, or apathetically advised to provide themselves with special footwear fitted by custom shoe specialists.

The etiology of this deformity is probably a metatarsus varus primus which may be so slight that it is unnoticed. When the effect of constantly wearing overly narrow or too pointed shoes is superimposed upon this, a condition of hallux valgus with its bunion results. One must infer that the wear-

ing of improper shoes alone is not the cause, since many persons who wear such shoes do not acquire the deformity.² However, when the defect is just becoming apparent, proper footwear and padding may arrest its progression and correct the early distortion. More advanced cases can be treated satisfactorily only by surgery.

Surgical treatment is directed at the several components which produce this deformity: the correction of the extreme adduction of the great toe's proximal phalanx by the adductor hallucis and lateral head of the flexor hallucis brevis; the removal of the bony excrescence on the medial head of the first metatarsal and its bursa; and the proper alignment and fixation of the first proximal phalanx with the first metatarsal by some means. Operations designed to cure this deformity include some or all of the above steps to attain the desired result. Osteotomy and sesamoideectomy may be added to better the correction in selected cases.

In the numerous operative techniques for hallux valgus similar basic manipu-

lations are present, with various innovations used to restore the great toe to a proper position. Approach to the first metatarsophalangeal joint is made either from the medial or dorsal portion of the foot. (Fig. 1)

The simplest operation exposes the medial aspect of the first metatarsal head through a curved incision with the convexity upward around the edge of the bunion. The flap is reflected downward, the bursa excised, and the exostosis removed with a saw, chisel, or rongeur and the base smoothed with a file or rasp. A tenotomy of the extensor hallucis longus tendon is then done to remove the lateral pull on the great toe. The flap is then sutured in place with interrupted nonabsorbable sutures. The great toe is pushed medially by a large pad inserted between it and the second toe, and the foot bandaged and strapped with adhesive so as to fix the toe in the ideal position. A plantar splint of plaster or a Clayton splint² may be used instead of bandage and adhesive. Weight bearing is allowed in a week but motion of the toe is encouraged shortly after operation.

A more complex but similar operation, the Silver operation,³ proceeds as above except that after excising the bursa, a Y shaped incision is made, with the linear portion of the Y extending proximally into the capsule to expose the exostosis which is then removed. The toe is strongly abducted, the medial portion of the capsule and the adductor hallucis insertion severed, and the extensor hallucis longus tendon lengthened if found to be tense. The toe is overcorrected 45°, the lengthened tendon restored to its bed, and the capsule overlapped and sutured with the toe in this position, thus affording fixa-

tion of the correction. The skin is closed and a medial splint or adhesive traction applied to maintain the correction.

The Mayo operation uses the usual medial volar based skin flap for exposure, a curved incision in the capsule with the concavity proximal and the base of the flap distal to the joint, to reveal the exostosis. This is chiseled off, and the medial portion of the metatarsal head also removed. The capsular flap is then interposed between the base of the phalanx and partially excised head of the metatarsal to form a new articular surface and the base of the flap approximated to the proximal capsular edge with mattress sutures. The skin is closed and splinting accomplished by one of the mentioned methods. This procedure yields excellent results when arthritic changes are present in the joint.

Correction by osteotomy is utilized in previously mentioned Mayo operations by the partial resection of the metatarsal head. Hohmann⁴ removed a wedge shaped piece of bone from the first metatarsal proximal to the head after freeing the abductor hallucis at its insertion and removing the exostosis. The metatarsal head was then corrected, the abductor hallucis reinserted, and the correction maintained by suturing the medial portion of the capsule to the proximal periosteum and capsule.

Peabody⁵ obtained very satisfactory results by resecting a triangular wedge of bone just proximal to the metatarsal head with the medial portion of the metatarsal shaft as the base of this triangle, and the apex located just short of the metatarsal's cortex on the lateral side. With the bone removed, the cortex was fractured by approximating the medial edges, fixing them by tying

TYPES OF INCISION



Fig. 1 A. Mayo incision
B. ... McBride incision
—Modified incision

a suture placed through drill holes, one in the distal and one in the proximal metatarsal segment. This moved the used articular surface of the metatarsal medially. The operation was completed by a medial capsulorrhaphy to align the phalanges with the position of the articular surface. Weight bearing was, however, necessarily deferred for 3-4 weeks to allow sufficient callus to form at the site of the osteotomy to maintain the repositioned fragments.

Kleinberg corrected the metatarsus varus by resecting a triangular distal fragment from the internal cuneiform and from the first metatarsal base through a dorsal incision over the tarsometatarsal joint. Then through a planter based flap on the medial side of the foot, the exostosis was resected from the metatarsal head, along with the medial tip of the first phalanx's base, the capsule and flap closed and the foot fixed in the corrected position by strapping. Weight bearing was prohibited for 3 or 4 weeks to allow solid union at the cuneiform metatarsal junction.

A very ingenious method of correct-

ing the metatarsus primus varus was recently described by Varney, Coker, and Cawley.⁹ They greenstick fracture the first metatarsal just above the base with an osteotome and insert the removed exostosis as a wedge to correct the varus deformity. The capsule on the medial side of the metatarsophalangeal joint is then plicated so as to properly align the toe and fix the correction. Weight bearing is begun a few days postoperatively with splinting maintained for about three weeks. This procedure was reported to give results with no spreading of the foot.

McBride⁵ presented an operation for bunions which had advantages of correcting the deformity without resection of the joint or fracture of the metatarsals. It was applicable to any case except those markedly deformed, those having articular surface changes, or those exhibiting hallux rigidus. McBride exposed the metatarsophalangeal joint by a two inch incision beginning at the web and extending along the external border of the extensor hallucis longus so that the center of the wound

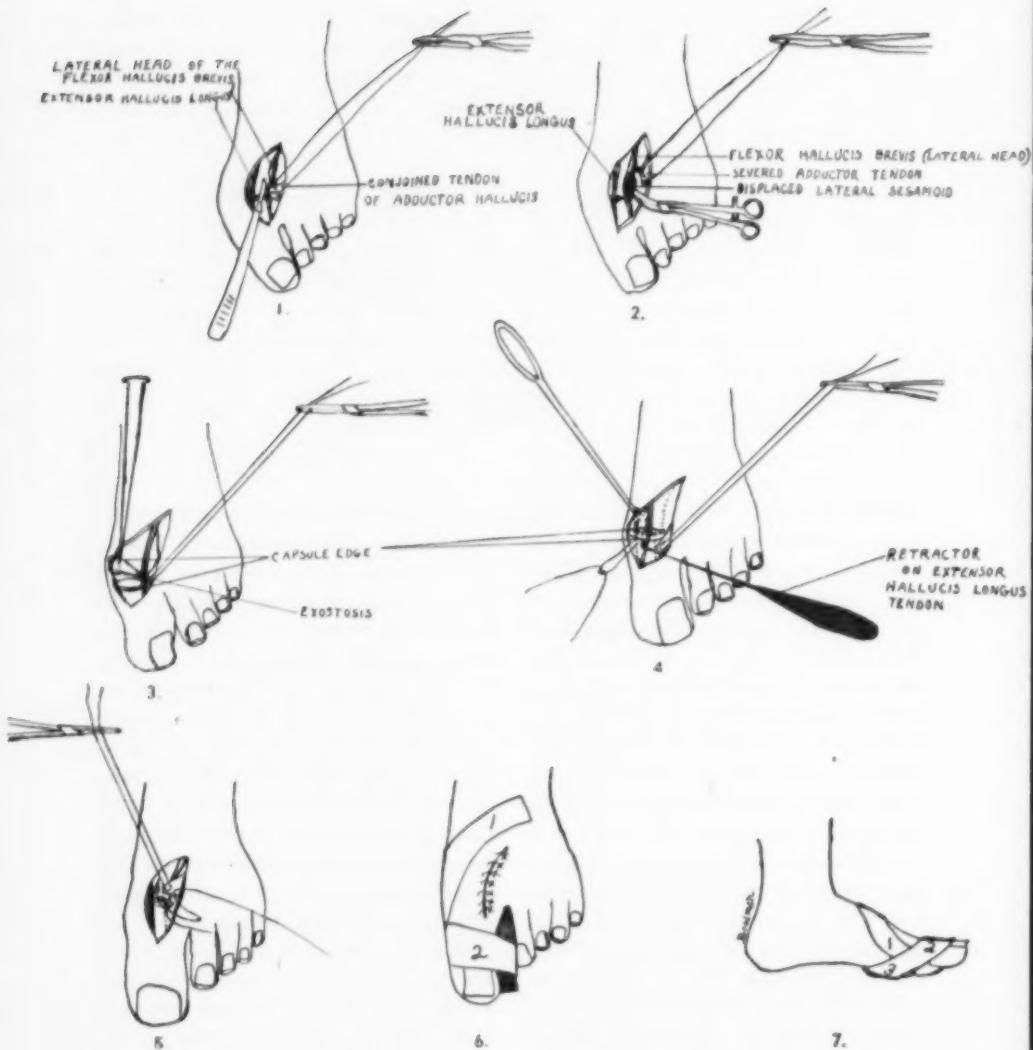


Fig. 2. Steps in the performance of the corrective operation. 1. The modified incision is made through the skin and subcutaneous tissue, spread to reveal the first metatarsophalangeal joint. A mattress suture is inserted through the adductor hallucis conjoined tendon and it is severed close to the bone. 2. The severed tendon is retracted, the lateral head of the flexor hallucis brevis is incised, and the displaced sesamoid seized and excised. 3. Extensor hallucis longus tendon is displaced laterally, the capsule incised transversely and the toe disarticulated downward and laterally to widely expose the exostosis. It is then chiseled or sawed off, the edges smoothed, and the bursa excised. 4. The capsule is reefed or shortened on the medial aspect by placement of an imbricating mattress suture to restore alignment. The toe is rearticulated and the suture(s) tied. 5. Adductor hallucis conjoined tendon sutured to periosteum of distal first metatarsal. 6. Wound closed with fine silk interrupted sutures and position fixed by gauze pad and adhesive strapping. 7. Medial view of strapping.

was over the joint. Keeping close to the lateral aspect of the metatarsal head, the common tendinous insertion of the adductor hallucis and lateral head of the flexor hallucis brevis was transplanted into the dorsal aspect of the head of the first metatarsal. The incision was retracted medially to enable the bursa to be dissected out and the exostosis of the medial side of the metatarsal head to be chiseled off. The toe was then placed in corrected position, the capsule and wound closed. Slight over-correction was attained by manipulation and held by a light plaster slipper for a week, following which adhesive plaster traction was applied and fixation maintained for from four to six weeks. Weight bearing was allowed two weeks after operation.

Experience with the McBride and the Silver operations have initiated utilization of portions of both procedures in a modified operation which is technically simple, allows early postoperative ambulation, and yields good re-

sults in the treatment of hallux valgus cases not having joint pathology or hallux rigidus.

A curvilinear incision (Fig. I) about three inches long with its distal end over the medial portion of the joint is used, gives good exposure by retraction and results in satisfactory healing with early ambulation. The common tendon of the lateral head of the flexor hallucis brevis and oblique and transverse heads of the adductor hallucis is identified, isolated, and transfixed with a heavy chromic catgut suture for retraction and later identification. It is then severed close to the base of the phalanx with a knife. The sesamoid, if displaced, is dissected out of the lateral head of the flexor hallucis brevis, using a curved toothed hemostat, such as an Ochsner, to mobilize it and maintain traction upon it while separating it from its attachments. The capsule is now transversely incised from the lateral to the medial side, the toe disarticulated plantarward at the meta-

Fig. 3. (a) Before and (b) after the above described procedure in a typical case.



tarsophalangeal joint with the extensor hallucis longus tendon pulled laterally to expose the osteophytic prominence on the medial portion of the metatarsal head. It is chiseled off, the base smoothed with a rasp, and the toe rearticulated. The bursa is then excised from beneath the skin. Now the toe is aligned and the medial portion of the thickened capsule is imbricated with mattress sutures of chromic catgut so as to hold the position by shortening the expanse of capsule over the medial portion of the joint. The conjoined adductor hallucis tendon is sutured to the dorsolateral aspect of the first metatarsal head, and the subcutaneous tissue and skin closed. Alignment is further secured by adhesive tape and a pad between the great and second toe applied in a figure of eight pattern. The wound is covered with sterile gauze taped in place. Pressure is maintained by a two inch elastic bandage firmly applied over the wound and foot. Ice bags are applied for eight hours following operation and the foot elevated for twenty four hours. Ambulation is begun the first postoperative day after redressing the wound, and tightening the elastic pressure dressing. The patient is encouraged to walk, after being provided with cutout shoes on the second postoperative day. Skin sutures are removed on the seventh day, and the wound painted with collodion which permits the patient to wear a wide toe shoe not possible over a gauze dressing. The adhesive traction is maintained four weeks or until such time as the toe maintains its position without this additional help.

Results of treatment by this procedure have been very gratifying. Patients are able to manage for themselves by the

third postoperative day and are discharged from the hospital in a week. Early return to their occupation is also accomplished even in vocations demanding a great deal of walking. A nurse and a waitress, for example, returned to their work six weeks after operation and experienced no difficulty in discharging their duties. The modified incision permits shoes to be worn early and thus a sooner return to gainful employment. Because of the ease of accomplishing this procedure and its favorable results, it is recommended as an operation worthy of inclusion in every surgeon's repertoire.

Summary

1. The etiology of hallux valgus is discussed.
2. The aims of surgical treatment of this deformity are presented.
3. Types of operative procedures are reviewed.
4. A successful simplified technic is presented.

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'Mood' Therapy in the Aged

Differential Approaches to Recent Therapy*

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The continued progress in determining the etiology of psychiatric disorders through modern research points increasingly toward the virus and/or polysaccharide as one of the probable causative entities. Whether this new approach will explode theories presently of value in classifying conditions now considered psychosomatic, is still to be demonstrated.

Regardless of etiology, one has to deal daily with patients complaining of varieties of symptomatic complexities, which need attention—now. These patients cannot await the ultimate determination of the causative agent.

Of the many approaches toward this end, the ones which have shown the most spectacular immediate results have been of the type which seek by one means or another to sever, or at least block off, the bonds between the psyche and the soma. Even though this blocking does not come to grips with the

essential problem of cure, it does undeniably alter their symptomatic indices. To achieve the purpose of our immediate and applied interest, we must, therefore, for a while longer accept the aspect of obtaining relief as the problem itself. The approach to solution then falls into two major lines of medical treatment:

Either one can stimulate the devitalized and anaemic brain, or one can attempt to curb the excess of their reactions, as they are expressed; in retirement, isolation, frustration, bitterness, or depression; or when they bring about a state of confusion and hallucination; or cause one to become agitated, suffer chronic or acute anxiety; or even actively fearful.

The care of the aged is not simply a refinement of the care of the adult. In geriatrics, more than in any other field, one must challenge the philosophy of "one best way." Here emphasis on individual differences pays dividends.

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Individuals vary, and patterns in the aged tend to become set, on a basis of that individual's experiences, attributes, and personality traits. A sound method of care for one elder citizen need not be sound for another.

In the individualization of patient care lies the greatest potential benefit for the geriatrician's approach to the problems inherent in the accustomed symptomatology of the aging and the aged. This individualization denies such mass therapy madness as has recently afflicted the public in respect to mood medicines. At Pinehaven, the entire gamut of moods—in economic, in societal, as well as in personal relationships—runs riot. Our experiences have been such as to find that one cannot prescribe en masse and obtain constantly good results throughout. In fact, one cannot even prescribe en masse without endangering the individual patient, who is the primary responsibility of the physician.

In these older people, the greatest single requirement is to break the root of their solitude. They have been shunted aside through the passing-on of friends and relatives of their own age, and left without compensatory societal relationships. These are a most difficult group for whom to care and prescribe. They find themselves situated in a functionless void. But life does not operate in isolation! These are retired people, totally retired or partially retired, willingly retired, or have had retirement thrust upon them. They have had to alter their habit from continuous work to continuous leisure. Now, nobody needs them!!

No-work havocs the nervous system more than overwork. It is, indeed, pressure on the nervous system and the

emotions which are increasingly disturbing these people. Earlier in life they had been able to cope with their problems. But gradually, as the load increases, they become unable to make allowances to the stress and strain of everyday life, and fail to take appropriate measures when needs call. All things considered, we have found that approach best which can stimulate meaningful activity. It makes them feel needed, and substitutes worry time by work time.

True, these older people, with few exceptions, are afflicted with multiple physical disorders. As Freeman says¹: "The likelihood of occurrence of various chronic disorders in older age, superimposed on these functional limitations common to long survival, is enhanced by each year of survival." Largely, they have learned to live with these physical ailments. But the emotional states loom greater still, and with these, the reverse is true. They have failed to learn how to cope with these emotional disturbances.

Before one can come to grips with a problem, one must determine what that problem is. Certainly, cure, under the functional limitations set by the years of disregard of underlying and growing pathology is out, at least for the present. We are still confronted with the patient and his bothersome symptoms. The problem is then what to do about alleviating the mass of resultant symptoms, as such. These may readily vary even in the same individual, and they manifest themselves through various degrees of acerbic moods toward friend, neighbor, or society.

What are these symptoms? These are anxiety; fear, aside from anxiety; confusion; disorientation; abusiveness;

agitation; and depression. Now, there are a number of combinations of these symptoms and emotions, of various degrees of disturbance and immediacy. So, the older patients with these conflicts must be individually assessed.

The factor of hypertension is a powerful one among the aged, affecting the physician's ability to bring about the desired results in the first or early stages of geriatric care. It may well be necessary first to allay the hypertension, and only then to proceed with the intermediate or long-term care. In this latter stage, the greatest potentiality toward returning the patient to societal and socio-economic usefulness lies in those medicaments which oxygenate the cerebral tissue. These bring quiet and peace to the patient, permitting reawakened activity and interest, without engendering the docile and spineless existence which some of the ataractics induce.

True, for the nursing home, home for the aged, chronic hospital, and public or private mental institution, this docility is a custodial blessing. It permits easier nursing care and management of hitherto unmanageable patients. But to what portion of the aged, in pursuit of a livelihood and a normal home environment, does it really give long-term human normalcy, as we have come to view actions in the human as normal?

Which type of mood-altering medication gives best promise to abate or eliminate each set of symptoms, for which individual?

Then, too, in matching each individual drug in our armory with the needs of each individual patient, what weight must be given to side effects? We must always consider the existence of the danger of side effects. The pre-

scriber must ever be aware that this danger exists and allow for its potential alteration. Yet, in no sense, even where strongly brought out, is it a major factor, nor does it forbiddingly obtrude, where differential medical care is carefully considered.

A total of 355 old age patients (65 or over) were observed as to the effects of various drugs used to alter moods and emotional states, when the elements of anxiety, fear, disorientation, agitation or confusion or depression were present. These patients were carefully studied and evaluated during the course of four years, and in no case for less than three months. In the early stages of our studies, placebos were used as controls in an equal number of cases, but later the study embraced so many medications affecting emotional or cerebral symptoms that each particular medication was deemed a sufficient check to measure the effects of the other medications being used. The breakdown follows:

We studied Metrazol, Reserpine, Chloropromazine, Promazine, and the Meprobamates in sequence, and are now making a study of Atarax.

Not quite four years ago, we had great initial success at Pinehaven in altering diverse, unsocial moods by placing our affected patients on Metrazol². Metrazol has been our standby for most senility symptoms, where hypertensive factors are secondary, and as a follow-up after reserpine and thiorazine therapy. Its effect is derived through improving the tone of the brain tissue through increased oxygen and glucose utilization³. It acts on the central nervous system, but particularly on the medullary centers, especially the respiratory, vaso-motor, and vagal cen-

SYMPTOM RESPONSES TO NAMED DRUGS IN THE AGED

DRUG	TOTAL NUMBER	ANXIETY				CONFUSION OR DISORIENTATION			
		With Hypertension		Without Hypertension		With Hypertension		Without Hypertension	
		** No.	Scale of Improvement	No.	Scale of Improvement	No.	Scale of Improvement	No.	Scale of Improvement
Chlorpromazine (Thorazine)	66	14	‡	22	‡ Plus	18	‡	20	‡
Meprobamates (Miltown-Equenil)	32	14	‡	18	§	6	*	6	*
Promazine (Sparine)	30	12	†	18	†	10	*	12	*
Reserpine preparations (Serpasil Raudixin)	104	50	‡	24	‡	26	‡	18	‡
Tetrazol Metrazol	123	46	‡	42	‡	54	§	66	§

** Numbers add up to more than total, since several symptoms are recorded for some patients.

* = insignificant or no improvement.
 † = about half improved significantly.
 ‡ = over 75% improved significantly.
 § = 90% or more improved significantly.

Atarax: Study incomplete. First month shows: Markedly improved: *8. Moderately improved: 10. Not improved: 4. Given for various anxiety states and psychosomatic symptoms. No dermatologic reaction to date. There is seemingly less of the detached relationship to surroundings than with the Meprobamates.

The second month of our study shows the markedly improved to be 12; moderately improved, 8; not improved, 2.

The longer observations show so far:

1. That the length of active life of the drug is at least two months' duration — the present length of our study — probably longer.
2. That there is considerably less effect on fear, as differentiated from anxiety, and a much more normal response reaction to danger than we have found with the Meprobamates. The study is being continued.

ters, as well as on the cortex. It increases cerebral blood flow⁴, increases lactic acid in the blood, and acts on free acetylcholine⁵.

Whether the higher psychic functions are associated with many subtle biochemical changes beyond mere oxygen utilization, as Kety suggests,⁶ is not at

the moment germane. What does count is that in these symptoms of senility, Metrazol performs an outstanding service—slowly, it is true—but with increasing effectiveness and a greater degree of permanence in mood control than do the presently known tranquilizers.

DEPRESSION		AGITATION		DISTURBING DANGEROUS SIDE EFFECTS	
Scale of No. Improvement		Scale of No. Improvement			
8	‡	8	‡	Shallow respiration. Jaundice. Drowsiness.	
4	*	6	†	Skin allergy. Detachment and irresponsibility.	
5	*	6	*	Mild gastrointestinal.	
8	*	14	‡	Depression. Slow pulse markedly.	
12	§	16	‡	None seen.	

After the advent of Chlorpromazine and the Rauwolfia preparations, particularly reserpine, the responses with emotionally involved patients were more rapid. One hundred and four patients were placed on reserpine, and 66 on Chlorpromazine. They both effect hypothalamic workings, and Chlorpromazine depresses also the sympathetic and parasympathetic nervous system.

We began to use reserpine chiefly where hypertension was present, and Chlorpromazine, when hypertension was not the chief complaint.

The increasing incidence of side-effects on continued use was found to be a hazard we sought to modify or eliminate.

It was found that the combination of either of these two, with Metrazol, permitted an earlier substitution to Metrazol alone, with concomit-

ant lessening of the danger of toxic manifestations.

Chlorpromazine enhances the action of reserpine, but it combines with Metrazol with greater effectiveness and greater safety than reserpine. Metrazol, in combination with reserpine, sometimes brings about a slight relapse, but even when it does, the Metrazol, when thereafter continued alone, is still steadily effective.

Since Chlorpromazine has produced marked jaundice, it was theorized that the chlorine radicle was the culprit. We, therefore, placed 30 patients on Promazine, and continued to study them for four months; Promazine did not have the side-effects, but neither did it in our hands have a marked helping effect. We gave it up, returning to the use of Chlorpromazine, under standards of greater watchfulness, and in

individually determined dosage. At that, we have had only two occurrences of jaundice in a total of 66 patients. Neither of these occurred under the later methods of watchfulness in prescribing. Drowsiness of a dangerous degree was encountered in one early case, but, again, this has not recurred with careful supervision of dosage.

The most common emotional symptom in the aged with which we had to contend was anxiety. Anxiety is a concept that affects both the psyche and the soma. Apprehension and a sense of impending disaster are the major psychological signs. In most patients, lesser reactions are the more usual occurrences. Somatically it manifests itself mainly in gastro-intestinal, cardiological, neurologic, dermatologic, and endocrinologic symptoms.

There are times when one must dig deep to ferret out an underlying anxiety. Mostly, however, it is a palpable, pulsating presence, looming large and obvious to the observing physician. Which of these newer medicinal approaches gives the greatest promise toward extinguishing anxiety? Which ones, after the elimination of anxiety, maintain longest the state of calmness with greatest certitude? Both aspects of the control of anxiety are of importance. Indifference to the call to recognize the need to alter the treatment when the second stage becomes the paramount consideration, can well spell failure over the long term.

We have found that spontaneous alteration, due to changing and kinder environments, can and does occur—but only infrequently. Usually, a boost in the right direction is needed. In the hypertensive, reserpine has proved of greatest value in altering anxiety and

fear, and of much value also in the normotensive. As time progresses, reserpine begins to lose its potency in ameliorating the anxiety and the fear, as well as in its hypotensive effect in the older patient. This time element varies. We have not seen it begin in less than six months, and in most cases, not before a year or more has passed. But it has a crescendo, and then a diminuendo, from which there is usually no return to the higher levels of effectiveness. Chloropromazine, like reserpine, has great value in altering anxiety and other senility states. It has, however, a greater potential towards side effects, and because of its tendency to increase shallowness in the already shallow respirations of the aged especially when barbiturates and opiates are used, its value in the milder anxiety manifestations is limited. In the more serious type of patient, bordering on the psychotic, its value surpasses in our hands that of the other tranquillizers—but it must at all times be carefully watched, and so its use is more limited in geriatrics than elsewhere.

Fear, as we define it, is readily discernible and differentiated from anxiety by the observing physician. Nevertheless, I have yet to see that differentiation adequately worded in print. In both fear and anxiety the reaction is either "toward fight or toward flight," to quote O'Brien⁷. Frequently, anxiety has no present concrete being, either physical or emotional, but is usually lodged deep in some crevice of the mind or memory, long forgotten and lost in time and relationship. Though the term "anxiety" is often used as an equivalent of fear, anxiety more than fear has a built-in association of a threat to the values of the personality of the individual.

vidual—his self-esteem or security. Often the objective danger it warns about is not so readily discernable to the outsider, nor even to the patient, as is fear.

But this differentiation is relative, and not entirely reliable. The difference must then be sought for elsewhere. It is not to be found in the reaction; but is rather found in the logic of the response.

The person in an anxiety state is apt to flee, when he should face the danger. Or he might be "compulsively" foolhardy enough to fight when he should run away. This illogical response to anxiety is altered by the tranquilizers, especially by the meprobamates, to a sufficient extent, at least, to give the physician time to provide amelioration or to cure by other means. But unfortunately, in fear also it destroys the will and ability to make the choice of "fight or flight" when that choice in a larger or smaller degree becomes essential and decisive in any phase of life. Whether the reaction is to anxiety or to fear, it can not choose.

Of late, we have been studying the meprobamates. Thirty-two patients, whose average age was slightly over 74 years, were put on Meprobamates. The meprobamates act by blocking action on interneurons and in the thalamus and hypothalamus. Of the 32 patients, only 8 had no previous medication for the conditions now under observation, neither cerebral stimulation nor sedation nor tranquilizer, as far as available records determined. Twenty of the other 24 had been on one type or another of the so-called tranquilizers. Four had been on cerebral stimulants. All 32 had been taken off other medications for from one to three

weeks before the ataractics were prescribed.

The meprobamates have a marked effect on fear, as distinguished from anxiety. Their effect on anxiety is, however, a thing apart. This distinction is often overlooked, but is essential to mark, if one is to avoid endangering one's patient. The ataractic effect, unfortunately, projects also toward the elimination of fear, as such.

We fear the tranquilizers as too effective in eliminating fear, even though they are of great and immediate value in allaying anxiety.

The period of maximum benefit of the meprobamates presently in vogue is short—much shorter than of reserpine or Chloropromazine—in the alteration of anxiety states, and even in its sleep-producing effect.

In the meprobamates there is, however, a property which other tranquilizers seem to lack; a renewal of its effectiveness, after a rest. We have, time after time, found a decline in its effectiveness; but when the medication has been "cut" for ten days to two weeks, we have been able to prognosticate another like period of effectiveness, and this has been found renewable again and again.

So while with the meprobamates, the medication may be continued indefinitely, it is not necessarily indefinitely effective. This decline in effectiveness is much less frequently seen with Metrazol, which mostly remains effective when once proven so for that individual patient.

With the meprobamates there are minor side-effects of gastric distress, drowsiness, and skin irritation. We have found these skin irritations slow in responding to the anti-histamines. It is

only when the side effect of skin irritation occurs that we consider it a major counter-indication, and promptly discontinue the use of this drug.

All patients placed on the ataractics, even the hypertensives, had been left without medication or on placebos only, for a sufficient duration to have eliminated the altering and often apparently threatening condition of new residence; new neighbors, new staff members, and even new walls about them.

Of the 123 patients who had been placed on Metrazol initially, 42 were hypertensive; 81 were normotensive or hypotensive. Anxiety was a predominating factor in fully half (62).

Anxiety without hypertension, alone, or accompanied with either agitation or depression, was well controlled by Metrazol in 42 patients. The depressed patient, and those simply showing anxiety symptoms, responded somewhat more readily to Metrazol than did the agitated patient.

Where anxiety as such predominates, and where other symptoms are secondary or minor, the meprobamates are now our initial therapy. But where long-continued effect is required, we switch to Metrazol. Despite repeated claims to the contrary, it has been our constant observation that patients under the tranquilizers assume a detached relationship not only to their symptoms, but also to the affairs which concern them. This casual viewing of their troubles is even more demonstrably noted with the Meprobamates than with the others.

Disorientation and confusion in the aged play a great role in the picture of senility, and Metrazol is our chief reliance here. The meprobamates have no marked effect in altering these symp-

toms, since these symptoms are largely the expression of cerebral physiological changes. The rauwolfia preparations, alkaloid or whole root, do have a great positive effect, particularly though not exclusively when hypertension is a responsible etiological factor, and cerebral arterio-sclerotic changes are dominant. In these there is often a quick alteration from the marked disorientation to practically normal realization of environment, or from confusion of thought and speech to lucidity of response. The modus operandi of this drug presumably lies in its relief of cerebral congestion through its hypotensive action; is good as long as its hypotensive action holds; and it is not *per se* the result of its tranquilizing effect.

The foregoing remarks pertain to institutionalized geriatric patients who are under constant professional observation. What about the ambulatory geriatric patient going about under his own steam; or one who, except for infrequent visits to his physician, is being cared for by his family. He is in an entirely different category with regard to evaluation of the effectiveness of these drugs. The impact that the prescribed medicine may have on his moods is necessarily translated in sociological and economic terms, as well as in psychologic and somatic alterations.

Two cases exemplifying the difference in patient care when the ataractics are prescribed, as between institutionalized patient and the out-patient engaged in his occupation, are reported herewith:

Mr. Y was a twin brother, 66 years old. As the patient's history unfolded, they had lived the like lives of twins. They had had measles together, and had

whooped at one and the same time. Their appendices came out within days of each other. They had become engaged and married together. Their wives had even died within the space of weeks. They were one, associated in mind as one.

When the elder twin recently became fatally ill, the other, 100 miles away, knowing the diagnosis as cancer of the stomach, became tense, developed gastric distress, inability to keep down any food, anxious as to his limbs, his stomach, his mind, his everything. This anxiety was apparently not fear, even though the patient did not recognize the concrete elements involved. Whether true or false, these elements were always present. A parallel had been drawn, and now the parallel was threatening danger of ill health, and perhaps of life.

The meprobamates had some effect in overcoming the acute stages brought about by the brother's death. When the patient returned from the funeral, he became calm; his tension left him; he was able to eat and retain his food. The parallelism was still there. The brother's illness might still show up in him, but the Meprobamates gave us time to make our bio-chemical, cellular, and x-ray studies. The fact that the patient was an in-patient helped, since he was protected from external dangers which might require immediate rational responses. When the studies proved negative, the parallelism was erased, and recovery continued without further use of the tranquillizers.

Mr. B, 62, on the other hand, was in the management of a skirt factory. He suffered from an anxiety neurosis, induced by business worries, mild hypertension and a "scratchy" home life. We put him on the Meprobamates. The

aura of calmness and peacefulness, and the increasing ability to take his upsets at home and in business with casual detachment, was immediately marked. However, when after some weeks, there was a let-down, we discontinued the medication. When he was again placed on the meprobamates, two weeks later, he again had a similar period of response in peace and unruffled calmness. After the third renewal, he refused to take the medication again. He explained that he and his associates were aware of a change in him that was all but ruining him and his business. They agreed with him that his acuteness of judgment diminished during the course of medication. He realized during the intervals when he was not taking the pills that the work he had done during the weeks under treatment was "Just no good. My hands work more steadily, but my mind has lost its sharpness. It is only during the time when I do not take the medicine that I have the best thoughts." Unwilling though he was to forego his detached calmness, Mr. B. is, nevertheless, off the Meprobamates. Though he does not have the peace of mind he had under the meprobamates, he feels he is better off that way. As he says, "I am I again." This case, of course, is chosen for its somewhat drastic and dramatic presentation. But it does not stand alone.

In a significant number of cases, meaningful alterations in responses to danger signals have occurred. These point a finger at a possible sociologic danger to our initiative; to our existence as a free enterprise society; to our economy; and even to our national life, if the ataractics depress the patterns for emergency, or if detached lack of responsibility result, through general-

ized and unnecessary use of tranquilizers, to alter natural and normal emotional responses.

Conclusion

Our conclusions fall in line with the observation that, most of the tranquillizers have realistic values in the anxiety states. But that in prescribing, the physician more than ever, must take into account environmental, situational, social, and societal factors, as well as the somatic and psychological; that the tranquillizers, in any case, should not be prescribed ad lib or at the patient's discretion, since it is exactly here that discretion is lacking! That measures other than the tranquillizers may give more permanent and less danger-fraught results, and, above all—that each patient must be individually evaluated, treated, and watched.

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AN EXERCISE IN DIAGNOSIS— THE CASE REPORTS

IN addition to our regular quota of original articles, "Refresher" articles and departments, this issue, and every issue, contains selected Case Reports. You will find them on pages 189-196. We recommend these studies as interesting and stimulating.

Schistosomiasis

Infestation by the parasites of the family Schistosomatidea, or their larval forms.

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Classification of Parasites

Kingdom: Animal
Phylum: Platyhelminthes
Class: Trematoda
Subclass: Digenea
Order: Strigeatoidea (Prisostomata)
Sub Order: Schistosomata
Superfamily: Schistosomatoidea
Genus: Schistosoma
Species: Hematobium, mansoni, japonicum

Schistosomiasis has become recognized as ranking next to malaria in importance among the animal parasites of man from the aspects of disability and deaths.¹ Now that malaria control is practical and economical, schistosomiasis looms as the most important health problem to be solved in many tropical and subtropical regions. Stoll² in 1947 estimated that there were approximately 114 million cases of schistosomiasis in the world, or about 5% of the world's population. It is believed³ that everyone living in the endemic areas of Leyte becomes infected before reaching the age of 15. This conclusion is supported by the habits of the people. They bathe, wash, and wade in infected streams almost every day.

Schistosomiasis is increasing in preva-

lence in endemic areas where crop irrigation has been introduced. In several areas of Brazil new foci have appeared recently, and in Africa the disease is apparently still spreading.⁴ In Egypt more than half the population, or an estimated 15 million people have intestinal, or vesicular schistosomiasis, or both.⁵ Because Egypt is over populated the growing country must put more and more of the Nile valley into perineal irrigation to supply food. Wherever the system of drainage has been changed from basin to perineal irrigation, the incidence of human schistosomiasis has increased from about 6 to 60% or more. At present, there are plans for converting large areas to perineal irrigation. The Gezira irrigated area of the Sudan was without canals and snails 25 years ago. Both *S. mansoni* and *hematobium* were brought to the area with *Planorbis* and *Bulinus*. Now one of 5 persons has infestation with schistosomiasis. In Iraq the problems of spread by reducing large land areas for perineal irrigation from the Tigris and Euphrates are similar to those of Egypt and the Sudan.

With increased travel and military operations in many areas where this disease is endemic, it is being recognized

with greater frequency here, in New York City.

Life Cycle Involved in the life cycle are passing of the worm from the definitive host; its hatching and the penetration of a suitable snail by the miracidium; metamorphosis into primary and secondary sporocysts, and cercariae in the snail; the eruption of free swimming cercariae into the water, and penetration of the skin of the definitive host by the cercaria; and migration and growth of the immature worms in the blood vessels of the host.

Man is the definitive host of *S. hematobium*, and *S. mansoni*, and dogs, cats, cattle, horses and hogs are the definitive hosts of *S. japonicum*. For *S. hematobium* the snail hosts are *Bulinus*, *Physopsis*, and *Planorbis* genera. For *S. mansoni* the genera *Planorbis* and possibly *Bulinus* and *Physopsis*. For *S. japonicum* there is only one genus, *Oncomelania*.

After the ovum passes from the definitive host the ovum has 24 hours to find fresh water where it can survive 30 days or longer in cold weather. Hatching usually occurs in 2 to 16 hours. The miracidium escapes head first with its mucoid covering, frees itself by

ciliary action and swims away. The viable period lasts 16-32 hours. It is attracted by the mucous secretions of the snail. The soft parts of the snail are attacked by the proteolytic ferment of the cephalic glands. The time of penetration is from 3 to 15 minutes. After 7 to 10 days, the miracidium becomes a primary sporocyst, an elongated, thin-walled secular creature containing closely packed masses of germ cells. It migrates to the liver where its rupture liberates secondary sporocysts which produce cercariae. The cercaria penetrate the snail and escape into the water. A single miracidium may give rise to 3,000 or more cercariae by actual count. Mortality among snails is high. Usually, 4 to 5 weeks are required for the production of cercariae, but this ranges from 2 to 12 weeks.

Cercariae usually emerge during the day. After a few days of production the rate is 50 to 500 per day for the life of the snail. They swim with the tail forward, and agitation of the water by any mammal creates cercarial activity.

Penetration time for the definitive host is usually thought to be 3 to 15 minutes but recent studies showed that

Description of the Causative Parasites Morphology of Adults^a

	<i>S. Hematobium</i>	<i>S. Mansoni</i>	<i>S. japonicum</i>
Male length (cm)	1.3	1.0	1.5
breadth	.09	.11	.05
integument	finely tuberculate	grossly tuberculate	Non tuberculate
Female length (cm)	2.0	1.4	1.9
breadth (cm)	.025	.016	.030
ovary	posterior half of body	anterior half of body	middle of body
uterus	20-30 ova	1-4 ova	50-300 ova

in shaved mice and hamsters⁷ exposed from 10 seconds to 5 minutes to 75 to 100 cercariae of *S. mansoni* that near maximum penetration occurred in 3 minutes. The shortest time was 10 seconds for mice and 30 seconds for hamsters. In the host the larvae enter the blood stream and lymphatics and are carried through the heart to the lungs and through the general circulation. It is felt that only those that reach the liver survive. Here they develop into adults, mate, and in copula move to the smallest venules where oviposition is begun. The time from infestation to the production of ova is 28 days for *S. japonicum*, 37 days for *S. mansoni*, and 30 days for *S. hematobium*. Infestation has been recorded to persist for 26 years in humans without reinfection.⁸

Pathology in the smallest portal venules the female deposits an ovum, and withdraws a short distance and deposits another.⁹ This process is repeated many times over a period of years until all the available venules in that region are filled. Many of those ova are continually being washed out by the blood stream and may be carried to the liver where by repeated infections and associated malnutrition severe cirrhosis develops after a few years. Others may be carried to the lungs and all parts of the body. In the brain as elsewhere they result in fibrosis and scarring which give rise to varied neurological signs and symptoms including convulsions.

The adults of *S. mansoni* and *S. japonicum* inhabit the venules of the colon and rectum, while those of *S. hematobium* reside more often in the venules of the bladder. After deposition the eggs cause local tissue injury with small abscess formation and are surrounded

by leukocytes, eosinophils, and giant cells. In the bladder most of the eggs remain in the submucosa and muscularis and some remain in the venule. Many viable eggs reach the lumen of the bladder and pass out with the urine. Cystoscopy reveals hyperplasia and inflammation of the mucous membranes of the urethra and lower segment of the bladder and small papillomatous growths. The trigonum may be inflamed and full of gritty particles which are the eggs. Later hyperplasia of the bladder wall develops with fibrosis. The ureter frequently becomes occluded by thickening of its wall and generalized hyperplasia, or from plugs of purulent debris. The process may extend even to the pelvis of the kidneys. In the male, the process may extend into the penis with fibrosis of the sheath and elephantiasis of it may result from fibrosis of the scrotal lymphatics. Pyogenic fistulas may develop into the rectum, or scrotum. *S. hematobium* may be carried to the inferior mesenteric vein and the caecum, colon, or rectum and also may produce schistosomal appendicitis.

In the colon the adults of *S. mansoni*, and *S. japonicum* produce the same infiltration with inflammatory cells. The intestinal wall becomes thickened, and fibrosed with abscesses opening through the mucosa and hyperemia of the peritoneum. As the disease progresses, it continues down the bowel, with the development of papillomata. The mesenteric lymph nodes become enlarged. The liver is greatly enlarged due to infiltration by the eggs. The spleen is enlarged due to passive congestion. Eggs again may escape into the lungs, pancreas, spleen, kidneys, skin,¹⁰ adrenals, myocardium, or brain. Later fibrosis and thickening continue. Papillomata are

seen commonly in Africa, but not in Puerto Rico. In perhaps 1% of *S. mansoni* infestation the eggs may reach the lumen of the bladder and be discharged in the urine. Later cirrhosis and ascites develop. In 10 to 30% pulmonary lesions occur.

Clinical Picture Schistosomal infection may be divided into 3 stages; incubational, oviposition, and extrusion, and tissue proliferation and repair. At the time of infection there is a tingling sensation followed by a local dermatitis. During migration and development of the worms toxic and allergic signs may appear such as urticarial rash, with subcutaneous edema and intense itching. Other findings include leukocytosis, eosinophilia, headache, anorexia, malaise, vague muscular pains and remittent fever.⁵

Certain species of cercariae of animals may penetrate the skin of man and cause a severe dermatitis. A discussion of this and a list of the species involved will be found in Appendix I. Also a "non-human" strain of *S. japonica* is discussed in Appendix II.

S. hematobium The most characteristic symptom is hematuria, which may be present for years without other manifestations. The first symptoms are a burning sensation on urination, frequency, and at times, a dull suprapubic pain. Usually only the last few drops of urine contain blood. The urine contains ova and often small blood clots. A few patients may show rectal involvement also. There may be fever, slight hepatitis or splenitis. In mild cases, the hematuria gradually diminishes, but in severe infections a progressive cystitis develops. Finally, the urine is mostly pus and blood, and ulcerations occur. The bladder becomes hypertrophied and

contracted, and involvement of the ureters may produce hydronephrosis. Also, less common developments are elephantiasis of the penis and scrotum from lymph blockage, and urinary fistulas to the rectum, peritoneum or scrotum are seen.

Interstitial pneumonia, seizures and paralyses may be seen from the ova washed out of the venules. The hepatic lesions may produce serious cirrhosis with the usual signs and symptoms.

In a voluntary infection of himself Barlow (an Egyptian expert on Schistosomiasis)¹¹ recorded carefully the clinical course of his disease. Notable findings in this study were that the eggs appeared in seminal fluid before they appeared in the urine, eggs were found in the skin of the scrotum and groin on biopsy, and prostatic hypertrophy developed after parasitological cure.

Schistosoma mansoni In the early stages the typical schistosomal dysentery is seen with blood, pus, and mucus in the stools. The dysentery usually subsides gradually. Fever, urticaria, abdominal pain, anorexia and leukocytosis, high eosinophilia, and pulmonary symptoms may be present. Later polyoid growths up to the sigmoid are found. The greatly enlarged liver and spleen are quite tender. The same tissues may be involved with scarring caused by the ova.

Later, fibrosis and thickening of the intestinal wall cause the passage of undigested food. At this stage again, hepatic cirrhosis develops. Recently¹² the characteristic chest X-ray findings were described as intensification of the shadows of the small arteries, especially the basal which become wider in diameter with dense tortuous shadows, carrying an irregular hazy outline and a

beaded appearance due to the presence of bilharzial nodules.

The pulmonary lesions have been described as an acute toxic type following migration of the cercaria through the lungs and a broncho-pulmonary form simulating late tuberculosis, and a cardio-pulmonary form which terminates in congestive failure.

Schistosoma japonicum This form of the disease is often more severe and more acute than the others because of larger production of eggs. In a report of 600 cases of *S. japonicum* in American military personnel by Most, *et al.*,¹³ the presenting symptoms were fever, headache, stiff neck and muscles, malaise, anorexia, weight loss, abdominal cramps, constipation, diarrhea, non-productive cough, urticaria, skin rash, and angioneurotic edema. The symptoms varied considerably. About 10% were severely ill, 30% moderately ill, and 50% mildly ill, with 10% asymptomatic. A significant peripheral eosinophilia was found in 85-90%. In sharp contrast to these acute symptoms, on arrival in this country from overseas bases 40% were asymptomatic. Within 6 months after the onset of initial symptoms 40-50% of proved and treated cases will have become asymptomatic. This progression apparently occurred whether the disease was severe or not, and whether stool examinations became negative or not. The most constant physical findings in the early chronic stage were abdominal tenderness, enlarged liver and enlarged spleen. In 64% the physical exam. was normal. Of these 600 cases, 17 had presumptive evidence of central nervous system involvement or about 2.5% (there are 36 known cases of CNS involvement from Leyte, P.I. of 1500 clinical cases from the same area).

These cases are of unusual interest to internists, neurologists, and neurosurgeons, since 50% developed symptoms suggesting an expanding intracranial tumor. In 90% the stools were negative for ova at the time of the CNS complications, and specific therapy with neurosurgery when indicated has restored most of the patients to useful lives. The chief neurological symptoms were monoplegias, quadriplegias, diffuse encephalitic signs, and syndromes simulating brain tumor. The neurological symptoms may not appear for several years after leaving the endemic area. Infected children show retarded development.

Diagnostic Aids Sputum: In a recent study¹² ova were found in the sputum of 22 of 66 patients with *S. mansoni*. Fourteen of these had chest X-ray findings suggestive of schistosomiasis. Sputum examination should be done on at least 6 consecutive days to discover such cases.

Immunological Reactions: These reactions are useful mostly for confirmation of the diagnosis, and to aid in evaluation of therapy. To some workers they offer a simpler and more accurate method of evaluating the effectiveness of therapy than stool examinations or rectal biopsy.¹³ However, they are not generally available at present. Sera from patients infected with *S. mansoni* showed cercarial precipitins which were high early in the disease (20-240 days after exposure) and later were low.¹⁴ Another reaction described on the same sera is the development of finger-like processes around a living ovum when exposed to immune serum, called the circumoval precipitin test. It is believed this test is specific in that a positive test indicates that viable worms are still present, and a negative test indicates

successful therapy.^{13,14} Skin tests to antigens prepared from schistosome eggs were negative before treatment and became positive in 11 of 14 patients 183 days after therapy.¹⁴ This skin test, like others, is not thought to be indicative of the effectiveness of treatment. An improved antigen for complement fixation tests and intradermal skin testing has been made¹⁵ by extracting the adult schistosomes with anhydrous ether in cold, (-15 to -18 degrees C.) prior to final extraction with buffer salt solution. This markedly reduces the incidence of syphilitic false positive reactions without lowering the value of the test in schistosomiasis patients. Sera from persons infected with *S. mansoni* and *S. japonicum* could not be differentiated with this reaction.

Hematology WBC 10,000-20,000. 15% over 25,000. Occasionally counts were as high as 60,000. High eosinophil and later secondary anemia develop.¹³ BUN was normal.

Spinal fluids:¹³ Five had increased cells up to 22. In cases simulating brain tumor the abnormal fluids were 67% with increased initial pressure, increased protein (globulin) and minor alterations of the gold curve.

Sigmoidoscopy Johnson and Berry¹⁶ found what they consider to be the characteristic early lesions of the mucosa consisting of multiple small "yellowish" nodules which occur in clusters. On biopsy they were found to contain ova. Ulceration was rare, and hyperemia uncommon. Most, *et al.*¹³ found these nodules in 25 to 46% of proctoscopies and in 13 cases a granular appearance of the mucosa was noted. Following adequate treatment, these changes were reversible.

Case Report A 45-year-old Puerto

Rican male was admitted on Oct. 10, 1955 complaining of intermittent lower abdominal pain of 3 months duration.

Present Illness: The patient was well until 1935. At this time he had episodes of diarrhea for several months, intermittently, and associated lower abdominal pain lasting less than 1 day. Later, about 1945 he was seen and followed at the Tropical Institute of Puerto Rico. He was told he had something wrong with his "bowels" and was treated for a full year with oral medications. He improved, and the pains disappeared. After treatment, the pains reappeared with the same characteristics but less frequency. Also, 3 years later he was again hospitalized for the same complaints. Again, he received an oral medication. He came to the United States 18 months before this admission. While here he also had lower abdominal pain, crampy and lasting 3-4 hours. This was quite marked and at times severe. Because of this pain, he attended the Medical OPD and the Health Department Center. About 1 month before admission, he was told his stools showed Bilharzia ova. About 1 week before admission he began receiving Fuadin 4cc increasing to 8cc daily.

Family history and Past history were non-contributory.

Physical Examination: Temp. 98.4° Pulse 76. BP 90/50 Resp. 16/min. The other parts of the examination were completely normal.

Laboratory: 24 hr. Urine antimony determination was 1.25 mg/1175 cc. Hemoglobin 14 gms%. WBC 9,050 Diff: Polys 34%. Transitional forms 11%. Monocytes 2%. Hematocrit 40 vpc.

Chest X-ray was normal.

Course in Hospital: The patient's tem-

perature, pulse and respirations remained normal. The patient was proctoscoped and hyperemia of the mucosa was the only unusual finding. Microscopic examination of the urine showed a few RBC, and WBC. The patient had an attack of pain on the fifth hospital day which subsided spontaneously. He was discharged back to the Health Department Center for continuation of his therapy. At the time of discharge he complained of burning of the "eyes" (conjunctiva) and "slow digestion." By this he meant that at times he passed undigested food.

Treatment The successful administration of Fuadin and other schistosomacidal drugs to patients with *Schistosoma mansoni* results in the gradual loss of the ability of the adult worms to produce eggs and finally in the death of the parasites.¹³ When the treatment is not effective, the worms recover their egg-laying ability and eggs appear once more in the feces. The presence or absence of viable eggs in the stools or biopsies of rectal mucosa is often used to determine the effectiveness of the treatment. Examinations for the eggs in these cases should be continued at least for 6 months after therapy.

The most commonly used drugs in the treatment of schistosomiasis have been tartar emetic introduced by Christopherson (1918) and Stibophen (Fuadin) a sulfonated catechol antimony complex introduced by Khalil *et al.* (1929). Literally tons of these drugs have been used, largely empirically in the treatment of this disease.¹⁷ According to Most, at the present time, tartar emetic is the most effective drug in the treatment of the three types of schistosomiasis, but is not always the drug of choice because of its higher toxicity and

the careful experienced observation required for administration of I.V. medications. Total doses recommended which will cure more than 90% of infections are for *S. japonicum* 2.5 gm; *S. mansoni* 1.8 gm; *S. hematobium* 1.5 to 1.75 gm. The schedule for the treatment of *S. japonicum*¹⁷ is Tarter Emetic 444 cc total of a .5% solution I.V. over a period of 35 days, 18 injections on alternate days as follows: 8 cc, 12 cc, 24 cc, 28 cc on alternate days followed by 28 cc every other day for 12 more doses. This should result in 95% of cures. If because of toxic manifestations or prolonged hospitalization this schedule is not practical, then daily I.M. injections of 5, 6, 8 cc of stibophen for at least 20 consecutive days are recommended. This will cure approximately 60-75% of infections depending on the size of the daily dose tolerated, and the total dose given. In cases of *S. hematobium* and *S. japonicum* 5 cc daily injections of Fuadin I.M. are recommended with total doses of 75 and 100 cc respectively. In practice, however, first doses usually are 1.5, 3.5 and 5.0 cc.

For alleviation of symptoms or mass control schedules for large population groups the muracil-D derivatives are recommended, realizing that the actual cures will be low. The so-called intensive 2-3 day antimony schedules and oral antimonials presently available are either too toxic or insufficiently active to be useful.

Toxicity and Side Effects of Treatment Antimony is a heavy metal similar biologically to arsenic. Accidental injection outside a vein causes local irritation, subcutaneous necrosis, and venous thrombosis. The systemic effects of antimony are cardiac depression, "irritation" to the kidneys and a

toxic effect on the liver. The immediate toxic or side effects are coughing, nausea, dizziness, weakness, and vomiting. Later, epigastric distress, fever, diarrhea, arthralgia, and conjunctivitis. Faust and Meleney¹⁸ state that a death has resulted following the single injection of .1 gm of tartar emetic. Khalil¹⁹ with wide experience in Egypt estimates the mortality rate from treatment with Fuadin as .2%. During Most's series of 600 cases there were no fatalities. 94% showed some of the side effects, but less than 1% were forced to discontinue therapy from toxic effects of Fuadin or tartar emetic. Coughing usually appeared after 15 cc were given in a single dose, or when the rate exceeded 3 cc/min. This is thought to be due to the irritating effect on the pulmonary mucous membrane which secretes the drug. To counteract this (a) the injection was given over 10 minutes for doses of 20 cc or more, (b) the daily dose was divided into 2 injections one hour apart, (c) ephedrine $\frac{1}{8}$ grain, $\frac{1}{2}$ hour before the dose was given, (d) adrenalin .3-.5 cc 1:1000 s.c. for relief of prolonged or severe coughing was used.

Nausea appears to be a cumulative effect and was much more prevalent in the Fuadin treated patients. (52%) Treatment of the nausea was Amphogel 6-10 cc before the dose, or tr. of belladonna 15-20 drops t.i.d. Atropine gr. 1/100 s.c. also was useful.

Amigen I.V. succeeded in controlling it when all other measures failed. Loss of appetite was always present seven to ten days after treatment was begun.

Muscular aching and joint stiffness was the most distressing side effect of treatment with tartar emetic. Increasing fluid intake helped some patients. This

always disappeared within 1 week after the last injection.

Conjunctivitis was found in 20% of patients involving mainly the bulbar conjunctiva in those receiving tartar emetic, and 6% of those receiving Fuadin.

"Collapse" reactions with hypotension, thready pulse, pallor and sweating, all responded to stopping the injection, of ephedrine, or both. These reactions were rare. Ephedrine would always be kept at hand for a possible cardiovascular reaction.

The major effect on the EKG of antimony is to cause decreased amplitude of the T wave in all leads, with some showing diphasic, or inverted T waves. These changes occurred gradually and progressively throughout therapy. There was wide variation in the duration of these changes after stopping therapy.

... One can draw on analogy between the current status of schistosomiasis treatment and the early arsenotherapy of syphilis. In spite of the potential and actual toxicity of salvarsan and, later, neosalvarsan and mepharsen, the prolonged and repeated intravenous and intramuscular course of treatment lasting a year or more at first, and later shortened by so-called intensive continuous treatment, and the numerous serious reactions, these drugs were hailed as a boon in the control of a disease which had plagued mankind for centuries. Perhaps the ideal nontoxic oral preparation which is curative for all forms of human schistosomiasis will eventually be found and be applicable for individual and mass treatment; or perhaps the biological or chemical control of the snail, together with educational and other public health measures, will eradicate the infection. But until we

find for schistosomiasis the equivalent of the present penicillin treatment for syphilis we should capitalize on the well documented experiences we already have and approach each case with the knowledge that definitive cure can be accomplished.¹⁷

Control It has been stated that schistosomiasis is now in the stage that is analogous to the quinine-Paris green phase of malaria control. (1) Efforts in the control of schistosomiasis include (a) treatment of infected individuals, (b) eradication of the disease in animals (c) prevention of viable eggs from entering fresh water, and finding a suitable snail, (d) snail eradication, (e) protective measures for persons necessarily exposed, and (f) education of the peoples, and their leaders where the disease is endemic.

Aquatic Snails The snails which are the molluscan hosts of *S. mansoni* and *S. hematobium* are chiefly aquatic and in this way differ from the molluscan host of *S. japonicum* which are amphibious. In the northeastern part of Brazil some of the snail habitats are without water throughout the annual dry season which lasts 5-7 months.⁴ A few snails survive this dry season and reinfest the water during the rainy season. Those which survived were found in the shade of foliage and debris near the water, where the temperature was relatively cool and the humidity high. Sometimes, the only survivors were very small specimens in debris near the soil surface. Therefore, control in these areas should be directed toward clearing of debris, the aiding of the natural enemies of the snail as fowls, and rodents, and in applying an effective molluscicide just before the rainy season begins. In snails that do survive complete repopulation of

the pools occurs in 30 to 40 days. This means that only a few unharmed snails may bring the population back to normal in a short time. The better molluscicides will be discussed under the control of amphibious snails.

Amphibious Snails All the known snails which serve as intermediate host of *S. japonicum* belong to the single genus *Oncomelania*.²⁰ The primary habitat of this species is not the rice fields but the terminal feeder irrigation ditches. Others inhabit the marshlands and near the edges of heavily shaded, slow flowing streams. Adult snails in dry test tubes not fed, can survive for 47 days in summer and 120 days in winter.²¹ The life span is four years. Cementing of irrigation channels is included in the current control program in Japan. Although snails persist they are in reduced numbers. It has been found that infection in hamsters does not occur with tailless cercariae.²² Also, this has been observed in children swimming below a waterfall (2 meters high) as compared to those swimming above it. Most of the tails are broken from cercariae by pouring them from a height of 100 cm (in 200 cc) but this depends mostly on the volume of water being poured. Because of this, forceful agitation of streams, as a means of damaging cercariae has been advocated by Cawston.²³ Baffles, rapids and waterfalls have been suggested. Clearing and burning of ditches also would be helpful if all farmers would do it simultaneously.

Molluscicides In 1944 and 1945, American troops had their first experience with *S. japonicum* in the Leyte campaign. Prior to that time the copper salts especially copper sulphate, and carbonate, were considered the most effective agents against aquatic snails.

Lime and calcium cyanide had been used in Japan against *O. nosophora*, an amphibious snail. After the experience in the Philippines it seemed advisable to investigate the possibilities of finding better molluscacides. Five government agencies were assigned various parts of the project.

Now 6000 to 8000 compounds have been screened by laboratory methods for killing snail hosts of schistosomes. The halogenated and di-nitro phenols were found to be the most effective agents, but other active ones included certain quaternary ammonium compounds.

Field trial tests by McMullen²⁴ showed some of the best chemicals to be these:

- 2-4 dinitro-6-isopropylphenol
- 2-4 dinitro-6-sec-butyl phenol
- 2-4 dinitro 6-sec amyl phenol
- 2-4 dinitro 6-cyclohexylphenol
- 2-phenyl-4, 6 dinitrophenol
- dinitrol-o-cresol
- pentachlorphenol

sodium pentachlorphenate
sodium 2, 4, 5-trichlorphenate

It was found there was a near maximum efficiency concentration with snail mortality of 90-95%. But a 2 to 4 times multiple of this concentration for the MLD, which is a costly requirement.

Newly hatched snails are aquatic for the first month of life and are much more susceptible to molluscacides than adults. Progress in Yamanashi prefecture, Japan, was first achieved with limited, though well applied knowledge of the snail and the disease. Control measures utilized were snail control by a molluscicide, restriction against use of cattle in the fields, compulsory night soil processing, and education of the public. Currently, the program includes the use of a superior molluscicide, applied annually, rather than intermittently over a period of years, extensive treatment of cattle and hogs, cementing of ditches, increased understanding by the public and government officials.

Appendix I

Certain species of cercariae of animals may penetrate the skin of man and cause a severe dermatitis. The resistance of men to these cercaria explains the severe reaction. Its nature indicates that cercariae are walled off by the host and destroyed in the epithelial layer of the skin. Twenty-nine hours after penetration no cercariae remain but reaction around the burrows of edema, neutrophils, and lymphocytes is marked. As the water evaporates a prickling sensation is followed by the rapid development of urticarial wheals which subside in about 30 minutes, leaving a few macules. After some hours severe itching, edema, and change to papules occur, reaching a maximum intensity in 2-3 days. This papular and sometimes hemorrhagic rash heals in 7-10 days. Individuals vary in reactions from slight to severe. Many different species of Schistosomes reported²⁵, some of which may cause cercarial dermatitis in man, are listed on the following page.

Africa and Near East

- S. hematobium — Bilharz 1852
S. matthei — Velga and Le Roux 1929
S. mansoni — Samlon 1907
S. bovis — Sonsino 1876
S. intercalatum — Fisher 1934
S. curassoni — Brumpt 1931
S. spindalis — Montgomery 1906
S. rodhaini — Brumpt 1931
S. spindalis var Africana — Porter 1926
S. mansoni var rodentarum — Schwartz 1951
S. faradjei — Walkiers 1928
S. Magrebovici — Le Roux 1933
S. trudestanicum — Skrjabin 1913
Bilharzeilla polonica — Roudewski 1895
Bivitellobilharzia loxodontae — Vogel and Minez 1948
Schistosomatium patholopticum — Tanabe 1923

India

- S. indicum — Montgomery 1906
S. spindalis — Montgomery 1906
S. incognitum — Chandler 1926
S. suis — Rao and Ayer 1933
S. nasalis — Rao 1932
Ornithobilharzia bamfordi — Montgomery 1906
O. nairi — Mudalair and Ramamycha 1945
O. dattai — Dutt and Sivastava 1952
Gigantobilharzia egreta — Lal 1937

America

- S. mansoni
S. douthitti — Cont 1914 (S. patholopticum)

Austobilharzia var glandis — Miller and Northup 1926

Bilharzia polonica — Kowaleski 1895
Dendritobilharzia anatinarum — Cheatum 1941

Gigantobilharzia gyrauli — Brackett 1942

G. lawayi — Brackett 1942

G. huronensis — Najim 1950

Macrobilharzia macrobilharzia — Price 1929

M. anhingae — Price 1931

M. chapiri — Price 1929

M. montobensis — McLeod 1936

M. canadensis — McLeod 1936

M. lari — McLeod 1937

O. pricei — Wetzel 1930

O. filamenta McLeod — 1940

O. aviani — McLeod — 1940

Trichobilharzia cameroni — Wu 1953

T. phycellae — McMullen and Beaver 1945

T. Ocellata — McMullen and Beaver 1945

T. stagnicolae — McMullen and Beaver 1945

T. Burnettii — McMullen and Beaver 1945

T. horiconensis — McMullen and Brackett 1945

T. waubensis — McMullen and Beaver 1945

Orient

S. japonicum

O. turkestanicum — Kuo 1946

T. yokogawai — Oiso 1927

T. corvi — McMullen and Beaver 1945

O. odhneri — Faust 1924

O. hoepplii — Targ 1951

G. sterniae — Tanabe 1948

In Japan the dermatitis known as "koganbyo" (lakeside disease) is caused by the cercariae of *G. sturaiae* in the Shimane Prefecture. This disease in sensitized persons may be very serious and cause weeks of incapacitation.

Appendix II

Recently Hsu²⁵ and his colleague have found that in Formosa, where *S. japonica* is present in rats (and lower mammals) a survey of 4,197 persons from seven villages revealed no evidence of human infection. It is suggested that this is a "Non-human" strain of *S. japonicum*. Five volunteers previously exposed to 500 to 800 cercariae each showed no ova in their stools, and no evidence of schistosome infection in liver biopsies at the end of the incubation period. There were no definite symptoms of infection, but an eosinophilia and positive skin tests were found.

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Hypertension

Its Treatment with Reserpine and Hydralazine Alone and in Combination

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In a previous publication from this hospital the results of therapy of 42 cases of hypertension with Hydralazine and Hexamethonium were reported.¹ The present report is confined to the results obtained using the single alkaloid of *Rauwolfia serpentina*, Reserpine (Serpasil)*, and Apresoline (Apresoline)* used singly and in combination.

The hypotensive effects of the various preparations of *Rauwolfia serpentina* have been studied by Tuchman and Crumpton.² These authors found no significant difference in the effects of the crude root, alseroxylon fraction, or the single alkaloid, Reserpine, when used in equivalent doses. *Rauwolfia serpentina* acts through a central sedative effect, with central inhibition of pressor reflexes, and a possible direct peripheral vascular action.³ The side effects of nasal stuffiness, bradycardia, and sedation are well known. Fries⁴ has reported three patients who developed in-

involutional melancholia with suicidal thoughts while taking Reserpine, which responded to withdrawal of the medication.

Apresoline (Hydralazine) is a hypotensive agent of moderate effect. It has a true hypotensive effect which is mediated centrally, and a sympathomimetic action which is also of central origin. The drug will lower blood pressure in normotensive patients and in experimental animals in the same manner as in hypertensive individuals, and further, the hypotensive response can be blocked by morphine.⁵ These findings are contrary to those of Schroeder⁶ who postulated that Apresoline combined with a humoral hypertensive agent such as hydrenalin to produce its effect. Peripheral adrenolytic activity has also been described when larger doses of the drug were given. However, in a patient with a proven pheochromocytoma a hypertensive crisis was observed following the intravenous administration of the drug.⁷

A property of Apresoline, shared by no other hypotensive agent, is its ability to increase renal blood flow while reducing blood pressure and pulse pres-

* Serpasil and Apresoline, Ciba Pharmaceutical Products, Inc.

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sure concurrently. The drug produces a renal hyperemia. This fact has been confirmed by several authors.^{5, 7, 9} More recent studies show that the effect may be lost as administration is continued. Intravenous administration results in a greater fall in diastolic than in systolic pressure, suggestive of a reduction in peripheral resistance as the principal effect. When given orally, a decline in diastolic pressure is observed first, then gradually, over a period of time, the systolic pressure becomes lower. Analysis of pulse-pressure curves and ballistocardiographic data tends to confirm these results.

An important action of the drug, but not in a therapeutic sense, is a sympathomimetic action responsible for the frequent complaints of palpitation and tachycardia associated with a rise in cardiac output. As a result of the increase in output, a greater coronary blood flow is required and in those patients with coronary artery disease, this may not be possible. As might be predicted, documented episodes of infarction have followed administration of the drug.⁸ In our own series, one patient developed precordial T wave changes (inversion) in V2, 4 and 6 in one week, concurrent with an excellent hypotensive response. The first tracing was reported as normal, the second as indicating left ventricular hypertrophy. A patient in our private series developed paroxysmal supraventricular tachycardia on each of two occasions following administration of the drug.¹⁰ Fortunately tolerance to undesirable side effects develops before tolerance to the hypotensive response, however, increasing the dose may initiate the entire cycle again.

Other, but less troublesome, side ef-

fects have been observed. Headache is so common in the initial stages of therapy that we usually tell the patient to expect it and that it will disappear as the medication is continued. Other side effects we have observed are weakness, nervousness, vomiting and diarrhea. The occurrence of a syndrome resembling Lupus Erythematosus in patients receiving this drug has been reported by several authors.^{11, 12}

Methods Patients from the Hypertensive Division of the Cardiac Clinic of the Brooklyn Hospital and from the private practice of two of the authors were studied. All patients were observed for a minimum of three visits prior to starting specific antihypertensive therapy. The diastolic pressure remained at or above 100 mm. Hg. during this control period in the patients reported. Blood pressures were taken in the supine position after the patients were rested on an examining table for fifteen minutes. Pressures were then taken in the sitting and erect positions. We noted no appreciable orthostatic effect from either Reserpine or Hydralazine, as reported by Livesay *et al.*¹³ Our results indicate the lowest blood pressure obtained from any of these positions. As our patients are ambulatory no cases of malignant hypertension are included. A drop in the diastolic pressure of twenty mm. Hg. or more is considered to be a significant response to therapy.

Results

Reserpine: 34 patients were treated with Reserpine in doses ranging from 0.5-1.0 mg. daily. Treatment was given for periods ranging from two weeks to five years with an average duration of six months. The patients' ages varied between 37 and 81 years, with an aver-

CHART I

DIASTOLIC B.P. DROP IN MM. HG.	PATIENTS TAKING RESERPINE	PATIENTS TAKING APRESOLINE	PATIENTS TAKING BOTH DRUGS
0-9	10	4	5
10-19	6	8	4
20-29	8	4	10
30-39	10	6	10
40-49	0	1	6
50 and over	0	0	4

age age of 56. A drop of 20 mm. or more in diastolic pressure was achieved in 18 of these 34 patients (53%). Five of these had a diastolic pressure of 120 mm. or more, and a significant drop in diastolic pressure occurred in four of these five patients. One patient developed an acute depressive reaction after taking 0.5 mg. Reserpine daily for 1½ years. The depression was relieved by stopping the drug. We encountered occasional patients who complained of drowsiness and nasal congestion which were aided by reducing the daily dose.

Hydralazine: Twenty-three patients were treated with Hydralazine in maximal doses ranging from 75-800 mg. daily, with an average dose of 338 mg. Only two patients received doses greater than 400 mg. daily. The duration of therapy varied from one month to three years, with an average duration of 6.8 months. The patients' ages varied from 38 to 74 with an average of 59. Of these 23 patients, eleven showed a significant drop in diastolic pressure (48%). Of those patients showing a significant response, only one received a dose greater than 400 mg. daily. An occasional pa-

tient developed a headache which subsided on continued therapy. One patient developed joint and muscle pain and fever (L.E. Syndrome^{11, 12}), on a dose of 400 mg. daily which subsided after stopping the drug. Another patient developed a pancytopenia following the use of Apresoline over a period of two months starting with 10 mgm. four times a day and increasing to 50 mg. four times a day. The blood count returned to normal after the medication was stopped for a period of two weeks.

Hydralazine plus Reserpine: 39 patients were given these drugs in combination. The dose of Reserpine varied from 0.5-2.0 mg. daily, and the dose of Hydralazine varied from 75 to 800 mg. with an average dose of 280 mg. A significant drop in diastolic pressure occurred in 30 of these 39 patients (76%).

Discussion Our results indicate that more patients show a significant hypotensive response when treated with both Reserpine and Hydralazine combined than when treated with either drug alone. Although we have no patients with malignant hypertension in this series, our results with Reserpine show

that a significant fall in diastolic pressure occurs as commonly in patients with control diastolic pressure from 120-140 mm. Hg. as in patients with control diastolic pressures of 100-120 mm. Hg. These findings disagree with those of Livesay *et al.*¹² who reported that *Rauwolfia serpentina* is less likely to be of value in severe hypertension.

The results in our patients with a dose of Reserpine of 0.5-1 mg. daily are essentially the same as those of Hughes *et al.*,³ who reported that 43% of 73 patients receiving oral Reserpine in a dose of 2 mg. daily showed a drop in mean pressure of 20 mm. or more. This suggests that a dose of 1 mg. daily may give the full hypotensive response.

Summary

1. The method of action and side effects of the antihypertensive drugs Reserpine and Hydralazine have been reviewed.

2. Reserpine in a daily dose of 0.5-1.0 mg. caused a drop in diastolic pressure of 20 mm. Hg. or more in 53% of 34 hypertensive patients.

3. Hydralazine in a average daily dose of 338 mg. caused a similar drop in 48% of 23 patients.

4. The use of combined therapy with both Reserpine and Hydralazine caused a significant drop in diastolic pressure in 76% of 39 hypertensive patients.

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Technic for Applying Forceps in Instrument Deliveries

As preliminary procedures for a forceps delivery, the patient is prepared, care being taken not to alter the position of the fetal head; the membranes are ruptured, and a vaginal examination made to check the position of the head.

Left Occiput Anterior In a L.O.A., the left ear is posterior, the left blade is posterior, its handle fits the operator's left hand, and it is introduced into the left side of the pelvis in front of the left ear.

Left Blade With his back to the patient's right knee, the operator holds the handle of the blade in his left hand, with the pelvic curve directed downward and the cephalic curve toward the vulva; the plane of the shank is perpendicular to the floor and parallel to the long axis of the patient. The middle and index fingers of the right hand are inserted into the vagina opposite the posterior or left parietal bone to guide the toe of the blade along the side of the head. The right thumb is placed against the heel of the blade. The force necessary to carry the blade into the vagina is applied with the right hand, the left hand merely guides the handle (Fig. 1). The plane of the handle should be parallel to the left oblique diameter of the pelvis, at right angles to the sagittal suture, or approximately coinciding with a line connecting ten and four on the dial of a clock.

Right Blade To apply the second or anterior blade, the four cardinal points shift: the right blade is held in the right hand and inserted in the right side of the pelvis in front of the child's right ear.

From FORCEPS DELIVERIES, by Edward H. Dennen, M.D., Professor of Obstetrics and Gynecology, Director of Department and Attending Obstetrician, New York Polyclinic Medical School and Hospital. [Publisher—F. A. Davis Company, Philadelphia, Pa. \$6.50].

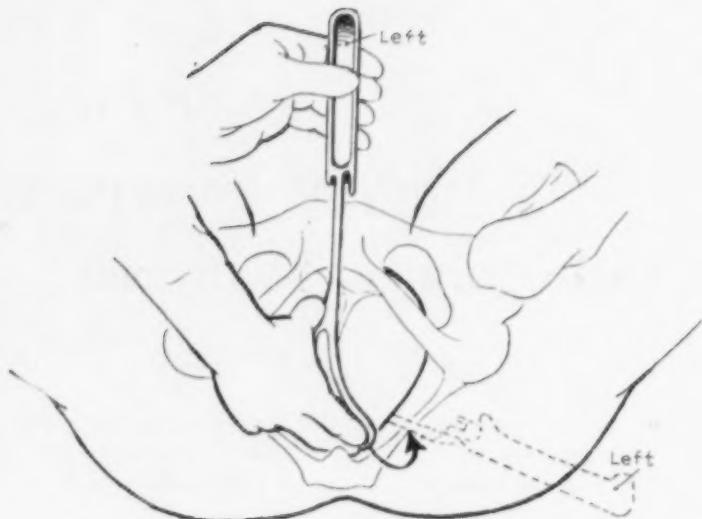


FIGURE 1

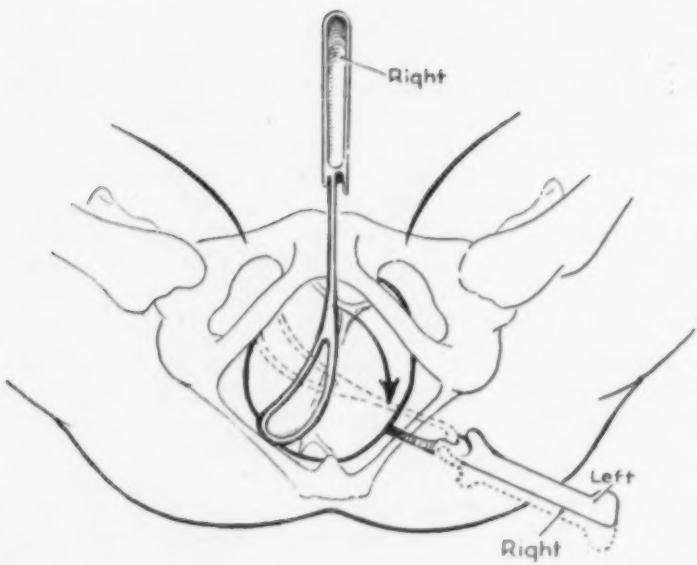


FIGURE 2



FIGURE 3

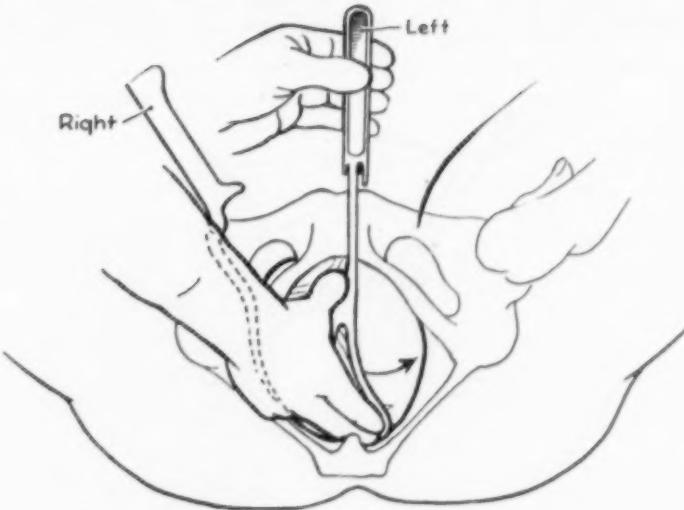


FIGURE 4

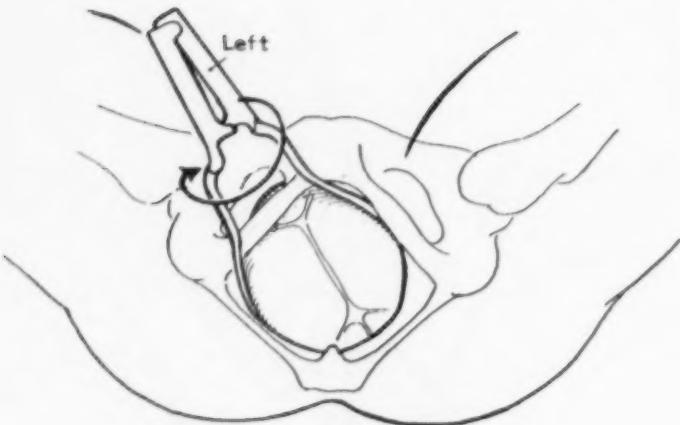


FIGURE 5

The toe is inserted anteriorly on the right side at a higher level so that it is adjacent to the anterior frontal bone (Fig. 2).

After the right blade has been inserted, it is adjusted to meet the left blade, and the two are locked. If there is wide divergence of the handles, the application has been incorrect, possibly caused by incomplete rotation of the anterior blade beyond the brow on the cheek. This may be overcome by lowering the right handle and elevating the blade by pressure with the middle and index fingers of the left hand on the heel. If this maneuver is unsuccessful, the forceps must be removed, the position of the head rechecked, and the procedure re-

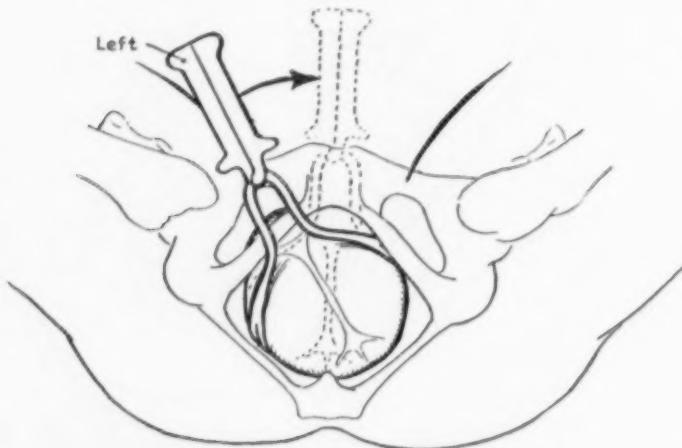


FIGURE 6

peated. After the placement of the forceps is believed to be correct, the three landmarks should be checked:

(1) The *posterior fontanelle* should be located midway between the sides of the blades and one finger's breadth above the plane of the shanks.

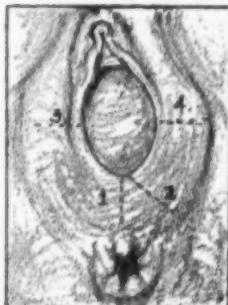
(2) The *sagittal suture* should be perpendicular to the plane of the shanks.

(3) The *fenestrations* of the blades should be so placed that not more than a finger tip can be inserted between them and the head.

Unless these conditions have been fulfilled, readjustment must be made. If the *posterior fontanelle* is more than a finger's breadth above the plane of the shanks, the handles should be unlocked, elevated one at a time to the required level, and relocked. The pivot point of the head is above the center of the blades. If the *posterior fontanelle* is less than a finger's breadth above or below the plane of the shanks, the handles should be unlocked and depressed against the perineum one at a time. The pivot point of the head is below the center of the blades. After necessary corrections, a third check is made before traction is considered.

Right Occiput Anterior In the R.O.A., the procedure is similar to that of the L.O.A. except that the order of applying the blades is reversed. The posterior blade is the right blade and is applied first, being held in the right hand and inserted posteriorly in the right side of the pelvis in front of the right ear (Fig. 3).

The left blade, held in the left hand, is applied anteriorly to the left side of the pelvis in front of the left ear (Fig. 4). Since the lock is on the shank of the left blade, they are locked by crossing the left handle under the right handle (Fig. 5). After clockwise rotation to the O.A. position (Fig. 6), and careful rechecking and needed adjustments, traction is the next step.

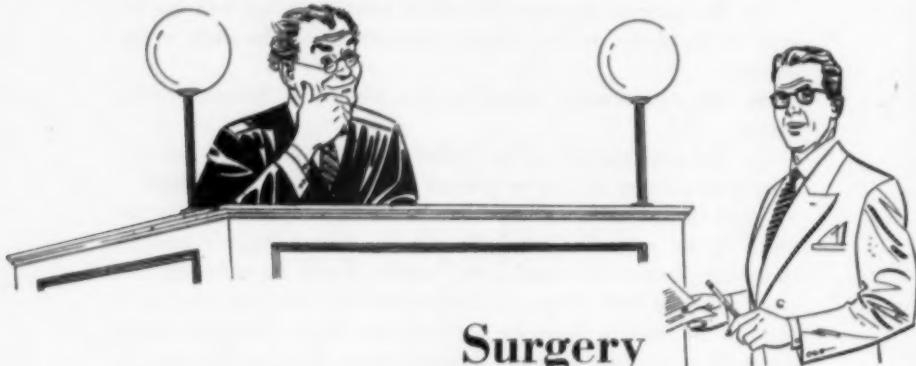


Clini-Clipping

EPISIOTOMY

Incisions for cutting the perineum to prevent lacerations:

1. Medium
2. Mediolateral
3. Right lateral
4. Left lateral



Surgery and the Law

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The surgeon, like the average person, cannot know with certainty in advance whether an act done according to his best judgment will subject him to civil or criminal liability in the future. The countless number of variables involved, when some judge the past acts of others makes this inevitable.

There is an explicit legal standard which every physician and surgeon must follow in treating a patient. Stated simply, he must possess that degree of learning and skill ordinarily possessed by physicians and surgeons in good standing in that or similar communities. Furthermore, he must apply that skill and learning with reasonable care and according to his best judgment.

The standard seems clear. However, the problem is how a judge and "twelve good men and true" will weigh a surgeon's past act against that standard. Consider the case of a busy surgeon

who performs a routine operation after which the patient dies. The patient's family put several surgeons on the stand who are critical of the defendant's procedures. Other surgeons testify that the defendant's procedures were professionally sound. The jury must believe one side. Suppose they believe the plaintiff's witnesses. The jury must then establish whether the criticized procedure was the proximate or direct cause of death or whether the patient would have died in any event. But can they and do they actually establish that? This is one of the numerous imponderables that confront a physician—indeed any citizen—once he becomes involved in a lawsuit. As Learned Hand, one of our wisest and most respected judges, once said: "I must say that, as a litigant, I should dread a law suit beyond almost anything short of sickness and death."

Unpredictable and imperfect as the

human system of justice is, the body of decided court cases offers the surgeon useful, if not exact, guidelines to govern his professional conduct. If he follows sound medical practice and injury or death follows the surgeon is not necessarily answerable in damages to the patient. Before the latter can win his suit, he must prove that (a) the surgeon departed from the standard of practice in the community, or, if he adhered to the standard, did so negligently and (b) as a direct result of that departure or negligence, damage occurred.

The law realized that physicians and surgeons work within certain limitations. Frequently, despite the exercise of skill and care, a cure is not effected. An unfavorable result by itself is not a basis for liability. Thus, in a recent case, four of a child's front teeth had become dislodged during a tonsillectomy. A Crow-Davis mouth gag had been applied by the anesthetist. The parents claimed that the injury to the teeth interfered with the normal development of the child's mouth. However, expert testimony revealed that the scientific reason was a physiological restriction of the mouth and not the loss of the teeth. Furthermore, the court found that there was no proof that the physicians failed to use proper procedures or were careless in their treatment. It therefore reversed a jury verdict of \$5000 against the anesthetist.²

In another instance the court, after holding that the plaintiff had not produced enough evidence of malpractice to go to the jury, dismissed the case and said: "It is a serious matter to charge a surgeon with malpractice. He should not be convicted on speculation or other than reasonable proof of the charge. He cannot be convicted for pure accident

or for other results incident to his treatment if he was exercising the best approved methods known to medical science with care and diligence."³

The surgeon, operating after a diagnosis of acute appendicitis, found that the ascending colon and cecum were bound down by many adhesions. Other usual landmarks were obliterated and mesenteric lymph nodes were prominent. He was unable to find the appendix. An old abscess cavity was opened and explored but the walls were left intact. The cavity was filled with sulfa, all adhesions were freed, all bleeding controlled, a Penrose drain inserted as the abdomen was closed. The post-operative diagnosis was acute exacerbation of an old ruptured appendix or appendiceal abscess. Fourteen days after the operation, the patient started to drain fecal material from the incision. The fistula did not heal after conservative treatment at home, and the surgeon recommended that the patient return to the hospital. However, the patient discharged the defendant-surgeon and engaged another who in turn operated again. He then found a separation of the ascending colon from the cecum, though continuity was preserved as the area of separation was walled off by the omentum.

The second surgeon testified that the cecum was probably damaged during the first operation, although he could not say so with reasonable certainty. He added, however, that it is possible in the presence of an abscess, to incise the intestine inadvertently even though the usual practices and standards of the community are followed. Furthermore, the transection of the colon could have resulted from the rupture of a diverticulum and it was not actually separated at the time the first operation was con-

cluded. It thus was shown that the result complained of could have occurred even with a competent surgeon using the instruments, methods and technique generally used by competent surgeons in that locality.³

Proving Malpractice Ordinarily, standing alone a bad result does not establish a malpractice case. The patient must prove by means of expert testimony the standard of practice in the community and that the defendant departed from it. One court stated the rule as follows: "Before a physician or surgeon can be held liable for malpractice, he must have done something in the treatment of his patient which the recognized standard of medical practice in his community forbids in such cases, or he must have neglected to do something required by those standards. In order to sustain a judgment against a physician or surgeon, the standard of medical practice in the community must be shown, and, further that the doctor failed to follow the methods prescribed by that standard; . . . it is not required that physicians and surgeons guarantee results, nor that the result would be what is desired; . . . negligence on the part of the physician by reason of his departure from the popular standard of practice must be established by medical testimony. *An exception is recognized in those cases in which negligence is so grossly apparent that a layman would have no difficulty in recognizing it.*" (court's italics).⁴ A typical example of an instance when negligence can be shown without expert testimony is where a foreign object is left in the body after an operation.⁵ The court in these cases applies the doctrine of *res ipsa loquitur* (literally, the thing speaks for itself). The patient merely proves his injury,

that it occurred without his fault, that it was caused by an instrumentality under the exclusive control of the defendant, and that such accidents do not ordinarily occur if due care is used. This raises an inference of negligence which the defendant must then rebut with contrary evidence. If the defendant fails to do so, the jury is justified in deciding for the plaintiff.

However, in order to receive the benefit of *res ipsa loquitur*, the surgeon's dereliction must be the kind that is self-evident to the layman. For example, a surgeon removed two small polyps located at the apex of the patient's vocal cords. The patient merely showed that his voice before the operation was clear and resonant but became hoarse and low-pitched after it. He argued that the surgeon's negligence was apparent from the sound of his voice just as it would be if forceps were left in the abdomen. The court rejected the plaintiff's argument, saying: "The ability of any layman to detect the bad condition of plaintiff's voice may be granted, but the cause of such a condition is a medical question, and not within the certain knowledge of laymen."⁶

The court's reasoning in this case seems clear. It is less clear, however, in another case where a surgeon accidentally perforated the patient's urethra. The surgeon admitted in his testimony: "I must have made the opening myself in the process of the operation. I am only human." The court held that this was sufficient evidence of negligence for the case to be taken to the jury.⁷ How do the facts of this case differ from the one mentioned earlier, where the patient's colon was transected during an appendectomy? In that case the court held that the mere fact of the injury

alone was not enough to show negligence without proof that it was caused by the defendant's departure from sound medical practice. These two cases demonstrate how different courts, applying the same broad principles of law, reach different conclusions in different situations.

Diagnosis The law recognizes that physicians may differ over a diagnosis or the treatment indicated. The mere fact that a diagnosis later is proven incorrect does not by itself establish malpractice. It must be shown that the defendant's procedure was not in accordance with standard practice in the community and that this failure was the proximate cause of the resultant damage.

During the first consultation, the surgeon gave the patient a cystoscopic examination and diagnosed the condition as an enlarged prostate gland. The patient rejected surgery. Two years later another cystoscopic examination disclosed a tumor which was malignant at the base of the bladder. The patient sued the surgeon for negligent diagnosis and treatment in failing to discover the tumor before it became malignant. The court held that there was insufficient evidence of a causal relationship between the failure to cystoscope and the cancer. "Prior cystoscopy might have revealed the tumor had it been there when the cystoscopy was performed. But it does not follow that even if it were found it could have been successfully removed.

It may be conceded that because of defendant's failure to cystoscope plaintiff there had been no chance to eradicate the cancer. But it is a far cry from that to the conclusion that had the defendant cystoscoped the plaintiff the

cancer could probably have been successfully eradicated."¹⁸

Although it is the better practice for the surgeon to make his own diagnosis, he generally may rely on the diagnosis of the referring physician. He need not make an independent diagnosis before operating in the absence of information or condition which would put the surgeon upon inquiry as to the correctness of the physician's diagnosis and the advisability or necessity for the operation.¹⁹

Consent to Operation An operation upon a person without his consent, irrespective of the outcome, is a wrong for which a surgeon will be held liable. However, courts are generally quite flexible as to what constitutes adequate consent. Thus, it is universally agreed that no consent at all is required where an emergency requires immediate action to preserve a person's life or health and it is impracticable to obtain his consent or the consent of someone authorized to speak for him. In addition, courts will sometimes go very far in implying consent from the conduct of the patient.²⁰

The current trend is to abandon the rigid common law requirement of a formal or explicit consent. It is recognized that the rigid rule developed at a time when surgery was frequently performed in the home while the patient was conscious so that the physician was able to obtain the patient's consent for any unexpected extension of the operation. If the patient was unable, because of his condition, to consult with the physician his family was readily available to consent.

Today, of course, surgery is performed in hospitals while the patient is under anesthesia. The family, if in the

hospital, are most usually in another part of the building. Furthermore, it is now understood that a complete diagnosis of an internal ailment is not made until an incision is made. It is therefore felt that it is unreasonable to hold a surgeon to the exact operation agreed upon after only a preliminary diagnosis.

The recent trend was followed in a North Carolina case, where a patient sued for injuries resulting from an unauthorized operation. The surgeon, while performing an appendectomy, discovered cysts on the ovary and punctured them. The patient alleged that as a result she developed phlebitis in her lower extremity. The court dismissed the case on the grounds that there was no proof that the puncturing of the cysts directly caused the phlebitis. It then acknowledged that the patient would be entitled to at least nominal damages if the extension of the operation was indeed unauthorized.

However, the court recalled the old Latin maxim, "Ratio est legis anima; mutata legi ratione mutatur et lex (reason is the soul of the law; the reason of the law being changed, the law is also changed).

The court then enunciated a more modern and realistic rule of consent: . . . "Where an internal operation is indicated, a surgeon may lawfully perform, and it is his duty to perform, such operation as good surgery demands, even when it means an extension of the operation further than was originally contemplated, and for so doing he is not to be held in damages as for an unauthorized operation." The court revealed the underlying policy of its decision when it said: "The law should encourage self-reliant surgeons to whom patients may safely entrust their bodies,



and not men who may be tempted to shirk from duty for fear of a law suit."¹¹

Despite this liberal trend, however, the surgeon should still be cautious and obtain proper consent from his patient or the patient's family unless he is absolutely certain of the position of the courts of his particular state on the subject.

Broken Needles It is recognized that a certain percentage of surgical or hypodermic needles will break without anyone's fault. Therefore, the breaking of a needle is not, *per se*, a basis for liability if the needle was used with due care. Thus, for example, a needle should be inspected for obvious defects before it is used.

The time for informing the patient of a broken needle lodged in his body or the proper time for its removal depends upon the circumstances. However, it would seem to be clear malpractice to discharge the patient without informing him of the accident at all.¹² Similarly, it would be reckless to probe for

the needle in certain sensitive areas without first having x-rays taken.

Foreign Objects in Body The leaving of foreign objects, such as gauze sponges or instruments, in the body is the kind of act to which *res ipsa loquitur* is most typically applied. As the court said in one such situation, "Cases may arise where there is such gross negligence and want of skill in performing an operation as to dispense with the testimony of professional witnesses." That court was confronted with an extreme example of carelessness. The plaintiff, after an abdominal operation, complained of pain in her throat and a choking sensation. Her condition worsened, and she was unable to speak, so she wrote notes to the surgeon and hospital attendants. The surgeon then examined her pharynx several times and assured her that there was nothing wrong. He did not call in a laryngologist as the family had insistently urged. Her throat swelled externally, and her fingernails began turning blue.

About thirty-six hours after the operation, the patient brought in a laryngologist, who, in the presence of the defendant, removed from her throat a metal disk with two wire loops about four inches long left there by the anesthetist physician. The patient testified that the laryngologist remarked at that time, "This thing should never have happened," and, "I have heard of a lot of things . . . but this is the first G--- time I have ever seen this." The court in upholding a \$5000 verdict for the patient, cited as sufficient evidence to support the jury verdict the fact of leaving the airway in the patient's throat. The defendant also failed to heed the patient's complaints and worsening condition.¹⁶

In another case the patient continually complained of abdominal pains for two years following an extra-uterine pregnancy. The defendant attempted to explain these at various times as gas, anemia or tilted uterus. Another operation disclosed a large cloth sack in the patient's large intestine, where it joins the small intestine. The court applied *res ipsa loquitur* which raised an inference of negligence against the surgeon.

However, he failed to produce sufficient evidence to rebut the inference. It was shown that the only operations that plaintiff had ever had were those two performed by the defendant. The latter denied that he had made an incision into the patient's intestinal tract. He agreed that it was inconceivable that the sack had entered the patient's intestine through her mouth. He suggested that it may have been inserted through her rectum, a fact that plaintiff denied. The court felt that this theory was too implausible to destroy the inference of negligence. Plaintiff therefore had enough of a case to go to the jury.¹⁷

It is less likely that the surgeon will be held liable for surgical gauze sponges left in the operated area. In general, it is the duty of the operating room nurses to keep a sponge count. In some states where this is shown, it is some evidence of the absence of negligence on the part of the surgeon, but it is not conclusive. In Massachusetts, however, the surgeon is completely absolved if it is the hospital's practice to hold the nurses responsible for the sponge count.¹⁸

Liability of Volunteer There is an old principle in the law to the effect that a person is under no legal duty to aid another in distress. However, if he

does take action and is negligent, he is liable for any injury he causes thereby.

A surgeon was summoned from an adjacent room by two less experienced surgeons who were performing an exploratory laparotomy directed at the patient's gallbladder. The latter had made an incision in the upper right quadrant of the abdomen and found a diseased gallbladder. Looking further, they found a tumor on the sigmoid colon in the lower left quadrant. They therefore summoned the defendant who confirmed that the tumor was malignant and that its removal was more important than the gallbladder. The defendant agreed to help with the excision without the knowledge of the patient and without compensation. The patient later sued all three surgeons for leaving a hemostat, a six-inch Kelly clamp, in the upper right quadrant of his abdomen.

The first two surgeons made a settlement with the patient before trial, so that only issue remaining was the liability of the volunteer. The court applied the doctrine of *res ipsa loquitur*, which raised an inference of negligence against the defendant. However, he won the case because he produced sufficient evidence to rebut the inference. All the surgeons testified that the defendant did not touch the upper right quadrant, but confined his attention to the lower left quadrant where the tumor was located. It was also shown that the defendant did not use Kelly clamps, but used curved clamps exclusively.¹⁸

Liability for Acts of Hospital Personnel As a general rule, a surgeon is not liable for the negligence of internes, anesthetists, nurses and other aides on the staff of a hospital. This is not true, however, once the surgeon begins to give specific instructions to

an employee of the hospital or when he exercises control over the details of the employee's work.

A parent sued a surgeon for causing the death of a child with an overdose of ether administered by a nurse in connection with a tonsillectomy. The trial judge dismissed the case on the grounds that the negligence of the nurse could be imputed to the surgeon could not be sustained. The appellate court reversed that decision, saying that, although the nurse was an employee of the hospital, there was enough evidence that the surgeon had exercised full power over the attending nurses so as to make him responsible for the improper administration of the anesthetic.¹⁹

In another case a patient claimed that she received chemical burns on her back during an operation. The court held that *res ipsa loquitur* did not apply because control over the chemicals was exercised by hospital personnel. The plaintiff selected the hospital, and the hospital's employees prepared the patient for the operation. Therefore, if *res ipsa loquitur* applied at all, it did so to the hospital alone.²⁰



MEDICAL TIMES

While the surgeon was scrubbing up in an adjacent room, the patient fell off the operating table as the nurse was adjusting the stirrups. The liability of the hospital hinged on whether the nurse, while performing that act, was the agent of the surgeon or of the hospital.

The court said that the following evidence introduced by the plaintiff, if believed by the jury, would make the nurse the agent of the hospital. The surgeon was the plaintiff's family doctor and on the staff of the hospital; the nurses were assigned to him by the hospital, and he could not reject them; the surgeon was not actually supervising the nurse when the injury occurred. Apparently, what swayed the court to a large extent, was the common knowledge that the preparation of a patient for surgery in the hospital operating room is usually done by the hospital's nursing staff and the charges for that are part of the hospital's, not the surgeon's, fees.²⁰

A patient was injured by the explosion of an anesthetic machine caused by static electricity. The court refused to apply *res ipsa loquitur* against the surgeon and dismissed the case against him. It appeared that he possessed the required skill and applied it with due care. The machine was under the complete control of the anesthetist, who was selected by the anesthesiological staff of the hospital. It was also shown that it is not a customary duty of the operating surgeon to inspect the anesthetist's equipment. The only duty of the surgeon is to wear clothing that is least likely to generate static electricity. However, the court affirmed a verdict against the hospital, although it reduced it from \$30,000 to \$15,000. It was shown that the anesthetic machine had rubber tires

and that it had no drag chain with which to drain off static electricity. The court applied *res ipsa loquitur* against the hospital. This raised an inference of negligence which the hospital could rebut by showing that it was not the lack of a drag chain that caused the explosion. This the hospital failed to do.²¹

Addiction to Drugs A physician must exercise a high degree of care in prescribing morphine. He may be held liable for any resulting addiction even if the patient lied about pain in order to get the drug.

A woman entered the hospital for surgery three times in the course of a year. She received pain-killing drugs each time. The defendant, who performed only one of these operations continued to treat her after her final discharge. The patient complained of pain and the surgeon continually prescribed morphine. About three months after her discharge another surgeon again operated and then discovered that she was addicted to morphine.

At the trial it was shown that the patient had begun to lie about the existence of pain in order to obtain more morphine. However, it was also shown that the defendant had assured the family that it was all right to give the patient the drug whenever she felt the need for it.

The defendant argued that the patient was contributorily negligent in continuing to ask for the drug despite the fact that she felt she was becoming addicted to it. The court rejected this argument and affirmed a jury verdict for the patient. Even if the patient knew at what point addiction began, she had a right to rely on the defendant's professional skill and judgment. It would be other-

wise, however, had she consulted another physician who warned her of the

danger of addiction and then she nevertheless continued to take the drug.¹⁴

Summary

1. A surgeon becomes liable for damage to a patient only if he departs from the standard of practice in the community or applies his skill carelessly and that departure or carelessness directly causes the injury.

2. Negligence on the part of a surgeon can only be established by means of expert medical testimony, except where the negligence is so grossly apparent that a layman would have no difficulty in recognizing it.

3. An incorrect diagnosis is not by itself malpractice if the surgeon used standard medical procedure with due care.

4. A surgeon must have a patient's consent to operate, although the current trend is to relax the requirement for an extension of the area of surgery where the circumstances call for it.

5. The breaking of a needle is not a basis for liability if the surgeon was not careless. However, he must inform the patient within some reasonable time that the needle is lodged in his body.

6. Courts charge the physician with a high degree of responsibility for addiction of patients to pain-killing drugs.

7. If a surgeon voluntarily aids a fellow surgeon without compensation and without the knowledge of the patient he may still be held liable for any resulting damage to the patient. The leaving of a foreign object within the body raises an inference of negligence which the surgeon must rebut.

8. A surgeon is not liable for the negligence of hospital personnel except when he gives them specific instructions in their work or exercises control over them.

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133 East 58th Street

Clinico-Pathological Conference

Los Angeles County Hospital

History The patient was a 25-year-old Negro construction worker who was admitted to the Los Angeles County Hospital for the first time on 4-5-56 complaining of low back pain.

The patient stated that he had been in good health until three months prior to entry when he noticed a gradual onset of weakness, fatigue, anorexia and weight loss, fever (with temperature up to 103 degrees), night sweats, and pain in the low back area.

The pain was described as dull and aching, beginning in the low back and radiating down the anterior aspect of both thighs.

Beginning at about the same time the patient noticed two small boils on his head which had begun as pimples and, over the course of his illness, had grown in size, intermittently draining purulent material. Seeking medical aid, the patient had been told he had pneumonia, but that his chest x-ray and skin tests were negative for tuberculosis. His "blood test" was reported to him as negative.

Despite treatment on two occasions

with penicillin, the patient continued to do progressively worse and developed several episodes of polyarthralgia. Over the three months prior to entry, the patient had lost 20 pounds.

The patient's past history and system inventory were negative for information other than that he had been treated with penicillin for gonorrhea in 1954. A personal history revealed that the patient had been visiting in Mississippi four weeks prior to the onset of his present illness. At the onset of his illness he had been working on a construction job in Los Angeles County.

Physical Examination The patient was a well developed, well nourished Negro man with a shaking chill, who appeared both acutely and chronically ill.

The temperature was 102.4 degrees; pulse, 96 per minute; respirations, 25 per minute; and blood pressure, 114 mm. Hg. systolic, and 70 mm. Hg. diastolic.

Examination of the head revealed no abnormalities except for two $1\frac{1}{2} \times 1\frac{1}{2}$ cm. raised papular lesions with central

crusting over the forehead and the occiput. The eyes, ears, nose and throat were within normal limits.

Examination of the neck revealed no stiffness but there were several small, firm, non-tender lymph nodes in the occipital and posterior cervical regions bilaterally.

The lungs were clear to inspection, palpation, percussion and auscultation. The heart showed no enlargement to percussion. The point of maximum impulse was in the 5th intercostal space at the mid-clavicular line. There were no thrills. The cardiac rate was rapid; the rhythm, regular. The aortic second sound was greater than the pulmonic. There was a reduplication of the mitral first sound at the apex. There was a grade II blowing systolic murmur at the base of the heart which was transmitted to the apex.

Examination of the abdomen revealed findings which were within normal limits. There was vague tenderness over the left sacro-iliac joint and the left hip region. There was no limitation of motion of the extremities. A neurological examination elicited no abnormal findings. The genitalia and rectum were within normal limits.

Laboratory Examination On admission the Hemoglobin was 7.5 Gm./100 cc.; the uncorrected sedimentation rate was 66 mm./hr.; the packed red cell volume was 26 mm.; the white blood count was 15,000/cu.mm., of which 72% were mature segmented polymorphonuclears, 15% stabs, 7% lymphocytes, 3% monocytes, 1% eosinophiles, and 1% basophiles. The urine was negative for sugar and positive, a trace, for albumin. A microscopic examination of the urine sediment showed 10 white blood cells and 1

red blood cell per high power field; 1-2 hyaline casts per high power field; and clumps of white blood cells.

Course On admission, the patient was started on non-specific measures to reduce his fever, i.e. aspirin, routine cooling measures, forced fluids; antibiotics were withheld. Blood and urine cultures were collected. Blood cultures drawn over the first week of hospitalization were repeatedly negative. Urine cultures on two occasions showed growth of *S. albus* and *E. coli*; the latter was resistant to penicillin but sensitive to other antibiotics. Culture of the skin lesions showed *S. albus*. Agglutination tests for typhoid and para-typhoid A and B were negative. An antistreptolysin titre was 100 Todd units. Skin tests for tuberculosis (#2 dilution), coccidioides, and histoplasmosis were negative. A repeat hemogram showed a macrocytic anemia, toxic granulation of the neutrophiles, and an eosinophilia (9%) which were interpreted as suggesting infection.

A chest x-ray on two occasions showed no abnormalities in the heart or lungs. An x-ray of the lumbosacral spine was within normal limits. X-ray of the hands and ankles were reported negative for abnormal findings. A repeat physical examination shortly after entry raised the question of changing heart murmurs but contributed no further information.

Because the patient continued to spike a daily temperature of 103 to 104 degrees, tetracycline in dosage of 2 Gm. per day orally was started on 4-14 without perceptible effect after six days. In the following two weeks the patient received erythromycin, sulfa, and mycostatin without beneficial effect.

A blood smear was negative for ma-

larial parasites and lupus erythematosus cells. A heterophile agglutination test was negative. Gastric analyses showed no growth on culture. A flat plate of the abdomen was reported as showing a minor ileus and a solitary phlebolith-like density in the right pelvis. An intravenous pyelogram was reported as normal, but with possible displacement of the left ureter by a retroperitoneal mass. The bones on this x-ray appeared normal. A lumbar puncture revealed findings which were within normal limits and no growth on culture. An alkaline phosphatase, blood urea nitrogen and CO₂ combining power were within normal limits.

The patient gradually went down-hill, continually febrile and complaining of pain in the hip (which required codeine for relief). On 4-27, twenty-two days after entry, after several days of intermittent disorientation, the patient died.

A chest film taken four days prior to death showed considerable change (over the previous film taken 12 days earlier). A disseminated fine, discrete infiltration involving the entire lung fields was described.

Discussion

Discussant: William D. Evans, M.D., Assistant Medical Director, Los Angeles County Hospital; Associate Clinical Professor of Medicine, College of Medical Evangelists School of Medicine.

DR. EVANS: Patient is a 25-year-old Negro construction worker who was seen in this hospital on April 5, 1956 for the first time. At that time he had low back pain. He already had been suffering from a rather persistent fever which reached 103 degrees. He had noticed by then two abscesses, one on the forehead and one on the back of

his head, low back pain, loss of weight and appetite. The back pain radiated to the anterior surfaces of the thigh.

Prior to entering the hospital he had been treated with penicillin with no effect on the fever. His previous history reveals nothing remarkable except that in 1954 he had had gonorrhea treated with penicillin, apparently successfully; and four weeks prior to present illness he had been in Mississippi. This doubtless is included in order to make us suspect that the patient may have histoplasmosis.

During his twenty-two day stay in the hospital he ran a persistently high fever which failed to respond to any sort of therapy. The things which were learned while he was in the hospital were that he had a negative skin test to tuberculosis, to histoplasmosis and to coccidioides, and that he had negative serological tests for typhoid and paratyphoid.

The important physical findings consisted of the abscess on his head, some distress in his low back, and a grade II blowing systolic murmur at the base of the heart, and slight tenderness both in the back and left hip. Blood count revealed an anemia, a rapid sedimentation rate and a 15,000 white count with generally normal differential, although a few days later he had 9% eosinophiles. During the course of his hospital stay, in spite of x-rays of the chest and abdomen and x-ray examination of the urinary tract, little was learned.

GEORGE JACOBSEN, M.D. (*Chief, Radiology*): What you have said is true, Dr. Evans, but the abdominal films do show a definite diffuse haziness suggesting peritoneal fluid or inflammation.

DR. EVANS: After securing cultures from the urine and from the abscesses,

both of which revealed staphylococcus albus, the patient was treated with penicillin and various other antibiotics without any noticeable effect. Blood cultures prior to this treatment were repeatedly sterile. Shortly prior to death, two possible x-ray clues were observed. The x-ray examination of the urinary tract suggested a retroperitoneal mass which may have slightly altered the position of the left ureter. Four days prior to death a scattered inflammatory infiltration throughout all lung fields was observed which clearly had not been there previously.

We are dealing with an inflammatory, possibly granulomatous lesion which, if it is all to be connected, involves abscesses on the head and some generalized inflammatory process which terminates in severe generalized infiltration of the lung fields. This raises the question of tuberculosis, coccidioides and histoplasmosis. The skin tests for all these diseases were negative. From the urine and from the abscesses, staphylococci were obtained but no organisms were obtained from the blood stream. My interpretation is to assume that this is a bacteriological disease related to the staphylococci which were cultured. I am inclined to suspect that the disease started with a small skin lesion on the head, possibly with a transient bacteremia, and the implantation of this infection in or near the left kidney with abscess formation, also possibly resulting in pressure and nerve root irritation near the 1st, 2nd or 3rd lumbar vertebrae.

This might account for the urinary findings and if it existed would account for the course and the fever. Whether there may be a super-imposed endocarditis, as is vaguely suggested by the

changing murmurs, I do not know, but in the presence of both fever and anemia I am inclined to discount any evidence of heart disease. I suspect that the terminal event consisted of severe bacteremia and septic emboli to the lung resulting in the x-ray findings four days prior to death.

DR. JACOBSEN: On reviewing the x-ray films we feel that the most significant findings were the diffuse haziness of the abdominal x-rays and the miliary infiltration in the chest films. We were not impressed with the reported ureteral deviation on the pyelograms. The x-ray findings suggest strongly a tuberculous lesion or a fungus disease with the former being most likely in view of the probable peritonitis.

RALPH ALEXANDER, M.D. (*Head Physician, Medicine*): Would you consider the skin abscess inconsequential to the major disease picture?

DR. EVANS: The skin is a good barrier against tubercle bacilli, but we do get people in the autopsy room who prick their finger and who have an infection and possibly secondary pulmonary involvement. I do not think that I would favor a primary tuberculous lesion of the head.

DR. ALEXANDER: What about the possibility of blastomycosis?

DR. EVANS: I would like to consider the entire picture with blastomycosis in mind. I think that the only thing we can make out of the case is an infectious disease. Would you exclude the possibility of histoplasmosis or coccidioides?

DR. ALEXANDER: The patient may be allergic to skin tests. I believe complement fixations are in order.

WILLIAM E. NERLICH, M.D. (*Chief Physician, Training*): Does the eosinophilia in any way help diagnostically?

DR. EVANS: The eosinophilia implies that this may be a granulomatous lesion rather than an acute bacteriological infection.

DR. ALEXANDER: How about a diagnosis, far-fetched, such as psittacosis with miliary pulmonary lesion?

DR. EVANS: I have never seen a case of this severity that waited this long before he developed demonstrable pulmonary lesions.

Although we cannot completely exclude a definitive diagnosis of tuberculosis or a fungus disease such as blastomycosis, histoplasmosis, or coccidioidomycosis which has disseminated, my diagnosis is

Staphylococcal septicemia

Abscess, left kidney

Bacterial endocarditis

Anatomical Diagnosis Acute miliary disseminated coccidioidomycosis.

Primary pulmonary coccidioidomycosis with extension to the prostate, kidney and bone.

Pathological Summary At autopsy, the body was that of a large, well-developed, muscular, Negro male of 25 years. At the edge of the hair line above the left glabella there was a small superficial ulceration, covered by dried, hemorrhagic serum, having a diameter of approximately 1 cm. There were several small lymph nodes palpable in the cervical, axillary and inguinal regions.

The chest was well-arched and symmetrical. The muscles of the chest were well-developed. The abdomen was moderately distended. The subcutaneous fat in the midline was pale yellow in color and averaged about 1 cm. in thickness over the abdomen and the chest.

Skull and central nervous system. Permission for examination of the brain was denied.

Cardiovascular system. The visceral and parietal pericardial surfaces were smooth and moist except at their reflections over the aorta. Here there were some rather dense fibrous adhesions. There was no free pericardial fluid. The heart was moderately enlarged. Its weight was 400 Gm. The myocardium was pale and free of scars. All of the chambers were dilated. The mitral valve measured 11 cm., aortic 5.5 cm., pulmonic 7.5 cm., and tricuspid 13 cm. The coronaries were large patent and the intima of these vessels was quite smooth. The heart muscle was very pale and there was a slight amount of fatty degeneration in the papillary muscles of the left ventricle and the muscle of the septum near the aortic valve. The valves were normal in appearance. The intima of the aorta was smooth.

Examination of microscopic slides was non-contributory.

Respiratory system. In the region of the apex of the right lung there were some easily separated fibrous tags. The left pleural cavity was free of adhesions. The surfaces of the cavities were moist. The weight of the left lung was 1400 Gm. The pleura over the posterior surface of the lung was somewhat dull and contained small deposits of fibrin. There was no scar at the apex. The lung was carefully sectioned and throughout both lobes there was diffuse infiltration of small tubercles. These were somewhat more numerous about the hilar region of both lobes. In the anterior lower portion of the upper lobe there was a small encapsulated area of yellow, caseous material having a diameter of about 9 mm. The capsule was thin and semi-translucent. No other lesions of this nature were found in either the upper

or lower lobe. Half of the lesion was sent to Mycology for cultural studies. Coccidioides organisms were identified.

Peribronchial lymph nodes were moderately enlarged and at the hilus of the upper lobe some areas of grayish discoloration were noted on sectioning.

Tracheobronchial lymph nodes were moderately enlarged, the largest having a diameter of about 1.5 cm. Here some areas of grayish change were noted. One node was almost completely replaced by grayish yellow tissue. The bronchi contained much frothy fluid and the bronchial mucosa was congested. The parenchyma was extremely edematous and in the posterior portions of the lung there was rather marked congestion as well as edema. The pulmonary artery was of normal size.

The right lung was essentially the same as the left, except that the pleura was somewhat rough in the region of the upper lobe posteriorly due to fibrous tags. This lung weighed 1500 Gm. It was diffusely infiltrated with fine tubercles. No lesion suggestive of a primary origin was found in this lung on serial sectioning. Peribronchial lymph nodes were small and black. At the hilus there was some enlargement of the nodes in the chain of the tracheobronchial group. The involvement of these nodes was similar to that previously described.

Microscopic sections of the lung showed capillaries which were intensely congested. Many of the air spaces were filled with coagulated fluid; others contained leukocytic exudate and spherules. In addition, there were some tubercles with giant cells containing spherules. Other sections showed quite marked involvement consisting of areas of leukocytic infiltration, tubercle formation and

some fibrous tubercles with giant cells. In all of these lesions there were spherules of *Coccidioides immitis*. Some of the air spaces were lined by thick layers of hyaline material. The process was quite diffuse in two large sections. Yet other sections of the lung contained considerable fibrous tissue associated with many small blood vessels. In this area there were conglomerate tubercles with hyalinization. Giant cells which were present contained the primary complex.

Microscopic sections of the tracheobronchial lymph nodes revealed large areas of hyalinization about which there were a few tubercles containing giant cells, as well as areas which resembled the primary lesion described above.

Digestive system. The peritoneum was smooth and moist. On the greater curvature near the cardiac end of the stomach there was some softening and congestion of the wall. The stomach contained about 200 cc. of thin, brownish gruel. The mucosa was quite smooth and free of ulcerations, except in the area of softening. No demonstrable lesion of the duodenum, small or large bowel was noted except for an enormous gaseous distention of the jejunum and part of the ileum. The rectal mucosa was intact. Large fecal masses were found in the rectum and sigmoid. The pancreas was large; its ducts, patent. The tissue of the pancreas was somewhat softened and slightly congested.

Microscopic slides were non-contributory.

Hepatic system. The liver was very large. Its weight was 2560 Gm. The capsule was smooth and transparent. Through the capsule was seen a moderate miliary spread of the granulomatous process. These lesions were somewhat

more numerous in the left lobe. Sections revealed that the tubercles were more numerous in the outer 1 cm. of the liver substance. Within the central portion of the liver it was difficult to see tubercle formation. The parenchyma was somewhat soft, hemorrhagic and had a brownish tinge. The gallbladder was nearly empty. Its contents, however, were normal. The common bile duct was patent and of normal size.

Microscopic sections of the liver revealed polygenal cells which were swollen and granular. There were several areas of caseation necrosis and tubercle formation. The tubercles contained giant cells which included spherules.

Spleen and lymphatic system. The weight of the spleen was 220 Gm. The capsule was wrinkled and blue. Through the capsule a few isolated miliary tubercles were seen. The pulp was soft and distinctly brown. In this soupy parenchyma tubercles were difficult to see. At the hilus of the spleen, in the head of the pancreas and in the region of the gallbladder and liver there were some moderately enlarged lymph nodes. These lymph nodes contained irregular confluent areas of caseation necrosis. This process appeared to be somewhat older than the miliary lesions described elsewhere. Lymph nodes of the mesentery were also moderately enlarged and some of these nodes contained grayish areas of necrosis. Retroperitoneal lymph nodes, especially about the lower end of the aorta, were slightly enlarged and seemed to be involved by the granulomatous process.

Microscopic sections of the spleen showed a few scattered areas of necrosis with proliferation of plump epithelioid cells. There were occasional widely scattered giant cells containing spher-

ules. In one part of the section there was a small area of fibrosis apparently representing an earlier dissemination of the disease. Spherules were found in these areas.

Urinary tract. The left kidney was large, weighing 240 Gm. The capsule stripped with ease. The surface was smooth and pale brown. At the upper pole close to the hilus there was a depressed, slightly hemorrhagic area in the kidney cortex which had a diameter of 1.5 cm. On sectioning, the tissue was noted to have a diffuse grayish-yellow color, presumably an older involvement by the granulomatous process. An occasional tubercle was found in the cortex and in the medullary portions a few isolated tubercles were noted. The pelvis was of normal size, the mucosa pale and smooth and the ureter normal size.

The weight of the right kidney was 220 Gm. The right kidney was essentially the same as the left except that an older granulomatous process was not found. There were a few scattered tubercles and at the upper pole there was a solitary cyst having a diameter of 2.5 cm. It was filled with thin, turbid, light brown fluid. The urinary bladder was dilated and contained about 300 cc. of turbid amber-colored urine. The mucosa of the bladder was smooth.

Microscopic sections of the kidneys revealed the same tubercle formation as was seen elsewhere. Post mortem cultures of the urine were positive for Coccidioides.

Genital system. The prostate was about normal size. In the left lobe there was a large, irregularly shaped, oval area of granulomatous involvement. This area was light yellow in color and had an older appearance than the miliary spread. The area had a diameter of

about 2.5 cm. The right lobe of the prostate was free of such involvement and the prostatic urethra was normal in appearance. The left testicle was of normal size. The upper pole of its epididymis was fibrotic. No granulomatous involvement was noted in the parenchyma of the testicle. The right testicle and epididymis were of normal appearance.

Microscopic sections of the prostate demonstrated tubercle formation with giant cells containing spherules.

Endocrine system. Examination was within normal limits.

Skeletal and muscular systems. The bone marrow of the sternum was scanty and pale and there were areas of fatty infiltration.

The bodies of the 11th and 12th thoracic vertebrae were divided and in the central portions of the bodies there were irregular areas of suppuration with corresponding bony destruc-

tion. A thick yellowish exudate was found in these cavities. The bone marrow about these areas was scanty and pale.

Final Comments

DR. EVANS: This, then, is a case of severe disseminated coccidioides in which the skin test was negative. At this stage of the disease, this is not really surprising. Had a complement fixation test been done it very likely would have been positive.

DR. NERLICH: Actually, complement fixation tests for coccidioides were done but not reported until following the patient's death. These were strongly positive.

DR. EVANS: The rapidly progressive disseminated form of coccidioides is considerably more common in this part of the country in those with dark skins than it is in Caucasians.



WANT A CHUCKLE?

SEE

"OFF THE RECORD . . ."

SHARE a light moment or two with readers who have contributed stories of humorous or unusual happenings in their practice. Pages 15a and 19a.

Zygomatic Bone Fractures

Fractures of the facial bones are common sequelae of modern day automobile, motor-cycle and bicycle accidents. The zygomatic complex is frequently involved in these injuries, either separately, or in association with other facial bone fractures. These fractures are often masked by soft tissue swelling which obscures the bony deformity, and are consequently often overlooked. It is important to understand the signs and symptoms associated with zygomatic fractures, in order that proper therapy can be instituted early.

Anatomy The zygomatic bone is responsible for the normal contour of the cheek and a portion of the lateral and lower border of the orbit. From the main body of the bone which forms the "pomettes" or "cheek-bone," three processes project. The slender temporal process extends posteriorly to articulate with the zygomatic process of the temporal bone thus forming the zygomatic arch, which spans the coronoid process of the mandible. The heavier frontal process extends superiorly to articulate with the zygomatic process of the frontal bone and with it forms the outer wall of the bony orbit. The maxillary process articulates medially over a broad area with the maxilla, forming the lateral

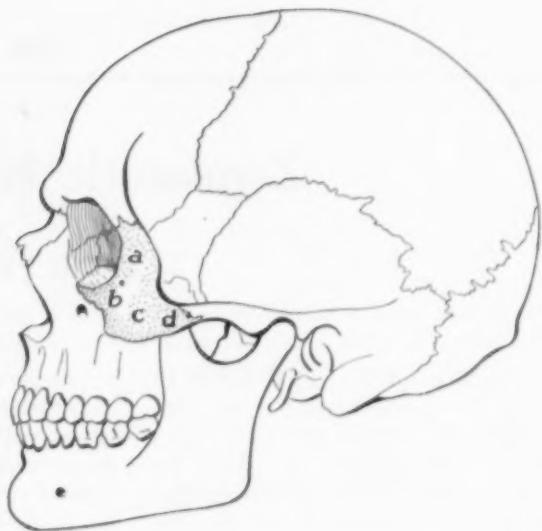
two thirds of the bony orbital rim, and resting inferomedially on the thin lateral wall of the maxillary antrum. These normal articulations can be checked by palpating the orbital rim, the zygomatic arch, and the outer wall of the antrum and inferior surface of the zygomatic bone, the latter being easily reached in the posterior aspect of the superior buccal sulcus. (Figure I).

History and Physical Examination In isolated zygomatic fractures the patient will give a history of a direct blow to the upper lateral or anterior surface of the face by a flying object, or a history of a fall or accident in which this portion of the face sustains the major impact. Zygomatic fractures are also commonly associated with, or secondary to fractures of the other facial bones. With multiple injuries the exciting force is often violent, and a history of unconsciousness is usually elicited.

The most significant presenting complaints are, numbness of the upper lip on the involved side, inability to open the jaws, and diplopia. The numbness is due to involvement of the infraorbital nerve, as it runs through the infraorbital foramen. Trismus is caused by im-

FIG. 1. Anatomy of the Zygomatic bone.

- a. Frontal process of Zygoma
- b. Maxillary process
- c. Zygomatic arch
- d. Temporal process



pingement of a depressed zygomatic arch on the underlying coronoid process. Mandibular fractures must be excluded in all such cases. Diplopia is without a doubt the most important complication of zygomatic fractures. It results from a disruption of the delicate spatial relationship of the eyeball to the bony orbit. This is maintained principally by Lockwood's suspensory ligament, which is an extension of the fascia over medial, lateral, and inferior rectus muscles, attached medially to the lacrimal bone and laterally to the frontal process of the zygomatic bone just below the fronto-zygomatic suture. When separation occurs at this suture line the lateral attachment of Lockwood's ligament is carried downward or outward thus disturbing the axial relationship of the two eyes, and the muscle balance of the globe of the involved eye. Occasionally this lateral attachment of the ligament is avulsed from its insertion, re-

sulting again in the disruption of suspensory mechanism of the eye. When the floor of the orbit is badly comminuted the infraorbital fat may herniate into the underlying antrum. Some people feel that this loss of support to the eyeball is another cause of diplopia. The important factor to remember is that early and complete reduction of most zygomatic fractures will correct the diplopia. Secondary attempts to restore normal vision by shimming up the eyeball with bone or cartilage grafts, or muscle shortening procedures are not encouraging.

On inspection of a patient with a recent zygomatic fracture the contour deformity may be masked by swelling. Classically there is a flattening of the normal prominence of the cheek. This can best be appreciated by looking longitudinally down across the patient's cheeks from behind and above, carefully comparing the normal and in-

jured sides. There may be a relative fullness of the lower part of the cheek due to a sagging of the structures supported by the depressed bone. Inspection of the eye will usually reveal circum-orbital and subconjunctival ecchymosis. Ecchymosis is also commonly found in the upper buccal sulcus. The posterior margin of the subconjunctival ecchymosis can not be made out since it arises from bleeding into the bony orbit from behind the conjunctival reflection. This type of hemorrhage is commonly associated with frontal fossa fractures. However, it can result from fractures of any wall of the orbit. When the floor of the orbit is fractured bleeding may enter the antrum and appear as epistaxis on the involved side. When retrobulbar bleeding is marked, considerable tension develops, and evacuation of the entrapped blood becomes necessary. On inspecting the eye, one should also carefully note the level of the outer canthus and pupil. Extra-ocular muscle movement is evaluated and will frequently reveal abnormalities. These may be due to hematomas, edema or transient nerve palsies.

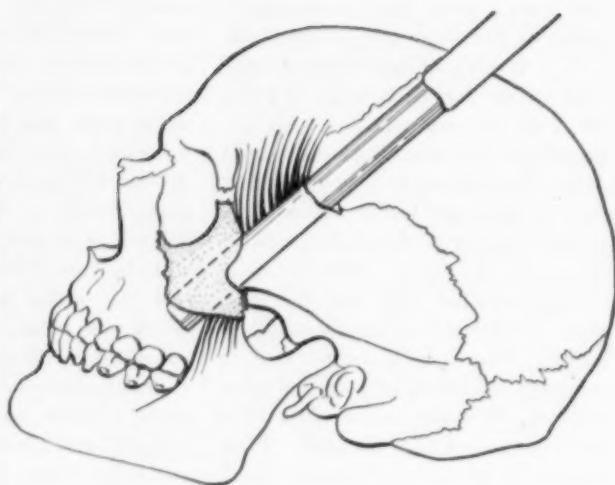
Having carefully completed the inspection of the patient, one should next proceed to methodically palpate the bony landmarks of the facial skeleton. This again can be best accomplished by standing behind the seated patient, using both hands, palpating the injured and uninjured sides at the same time. Starting with the supraorbital margins one proceeds laterally around the bony orbital rim. In the mid lateral region of the orbital rim separations or displacement of the zygomatic frontal suture line will be palpated. As one proceeds along the inferior border an elevated or depressed step may be encoun-

tered just lateral to the infraorbital foramen. This is the most common location of the fracture line in the zygomatico-maxillary region. If the entire zygomatic bone has been driven in and downward, into the antrum, a marked step up will be encountered as one proceeds medially. When the initiating force is more laterally directed the lateral elements of the bone are depressed and the medial elements elevated, in which case a "step-down" would be encountered on the infraorbital rim. This could also be caused by an upper middle third fracture where the bony nasal pyramid and medial wall of the orbit are driven downward and inward. Subcutaneous emphysema is commonly encountered and results from the fracture extending into one of the nasal sinuses with disruption of the mucous membrane lining.

The zygomatic arches are then palpated, and the range of mandibular movement noted. Marked depression of the arch will limit jaw movement due to pressure on the coronoid process and secondary temporal and masseter muscle spasm. Thickening in the temporal muscle should make one consider the possibility of an underlying middle fossa fracture. The anterior antral wall is next palpated both on the external surface of the cheek and via the superior buccal sulcus. Posteriorly in the sulcus the buttress of the zygomatic bone will be readily palpated. Tenderness and a step deformity can be elicited in the region.

Once one has ascertained the extent of the injury, x-rays of the facial bones should be taken to confirm the diagnosis. For zygomatic fractures the two most important x-rays to be taken are a 10 degree occipital-mental and a 30 degree occipital-mental. In the first of

FIG. 2. Gilles' temporal approach for the reduction (elevation) of fractures of the Zygoma. Through a small temporal incision the Briston elevator is passed down inside the temporalis fascia until its tip lies just under the Zygoma. The depressed Bone is then elevated into normal position.



these views downward displacements of the facial bones are best evaluated, while the second will reveal posterior displacements. The continuity of the arch is easily made out in both views. The orbital dimensions can be compared on each side. Hemorrhage into the antrum will result in its complete obliteration, or the appearance of a fluid level. Traumatic edema of the antral mucosa is frequently demonstrated, particularly in older fractures.

Treatment A number of different techniques for reducing zygomatic fractures have been described. Of these the Gillies approach is the best initial procedure. This involves elevating the depressed bone through a small incision placed in the hair line of the temporal region. A long sturdy elevator is passed down, deep to the temporal fascia. This plane brings the instrument under the zygomatic arch and buttress. Placing an index finger under the elevator as a fulcrum at the temporal incision, the firm pressure is then exerted on the

handle of the instrument. Depending upon the duration of time, since the injury, and degree of impaction, considerable force may be necessary to accomplish reduction. (Figure II). Satisfactory reduction is evidenced by immediate restoration of contour, and disappearance of step deformities of the orbital rim. This should be checked by a post-operative x-ray, 10° and 30° occipito-mental.

Occasionally the reduced fragments will not stay in their proper position. Under such circumstances it then becomes necessary to support these fragments, either by packing the antrum, or direct bone wiring. When the antrum is to be packed, it is easily reached through a small incision in the superior buccal sulcus. The anterior wall of the antrum in these cases will usually be comminuted. Any free fragments of bone should be removed from the antrum with the blood clot. The bony fragments can then be repositioned digitally with one finger in the cavity. Posi-

tion is maintained by packing the antral cavity, thus supporting the fragments from below. The packing is removed piecemeal after about two weeks. When the degree of comminution or separation of fragments is considerable, it may be necessary to resort to direct bone wiring to establish the continuity of the bony orbital rim. This is accomplished through external incisions in the natural skin curves over the fracture site. Floating fragments can also be immobilized by bone pins which are fastened to a plaster headcap.

Complications of Zygomatic Fractures

1. Persistent diplopia. This may be corrected by secondary muscle operations or infraorbital bone graft shims. Minor degrees of diplopia are soon compensated for by the patient. Marked diplopia is eventually compensated for by suppressing the image of the injured eye.

2. Infraorbital nerve anaesthesia, and paresthesia. Depending on the degree of nerve injury, regeneration occurs over a period of many months. With complete severance of the nerve there is occasionally some soft tissue wasting on the involved side.

3. Disturbances in jaw function. Untreated or inadequately treated zygomatic arch fractures may result in a synostosis between the arch and the underlying coronoid process of the mandible, causing permanent trismus.

4. Enophthalmos—resulting from prolapsing of infraorbital fat into the antrum, and obliteration of periorbital fat by scar tissue.

Dermofat grafts to the hollow of the upper lid can be performed secondarily to decrease this deformity.

5. Disturbances in contour of the cheek. Loss of the malar eminence or arch can be corrected by secondary bone grafts.

6. Depression or medial migration of the outer canthus of the eye, due to avulsion or displacement of the outer canthal ligament. These deformities can be corrected by reattaching the ligament at its proper level, at a secondary operation.

7. Globe and optic nerve injuries—may result from the original injury, or be precipitated by attempts at reduction, where bone spicules are pushed upward or backward. Over-packing of the antrum may create optic nerve pressure and blindness.

Summary

The diagnosis of zygomatic fractures is presented. The importance of early recognition and reduction is stressed. Methods of reduction

are discussed. The various complications secondary to zygomatic fractures and their treatment are listed.

EDITORIALS

Vesalius Versus Luther

Medical points of view often help us in our judgments of noted persons' basic intellectual equipment. Thus Martin Luther's conviction that "pestilence, fever, and other severe diseases are naught else than the devil's work" suggests the essential shallowness and limited breadth of his mind. At about the same time that Luther flourished (Reformation 1517-1521) Vesalius was born, 1514. What a contrast in human symbols of culture and progress! In our book it is Vesalius who spells civilization.

The Aspirin Story

According to Carroll A. Hochwalt, Vice President for Research and Development of the Monsanto Chemical Company, that company had produced during November, 1956, a climax of 100 million pounds of aspirin, which gives a clear idea of the volume of the product's use for safely relieving rheumatic pains and aches.

Hochwalt reminds us that willow bark was prescribed by Hippocrates to

relieve pain. This, of course, was salicylate therapy.

Salicylic acid was synthesized in 1874 by Kolbe, University of Leipzig chemistry professor, while Bayer's Felix Hoffmann found a derivative, acetylsalicylic acid, to be very effective and well tolerated in relieving the sufferings of his arthritic father. Thus began the long history of aspirin.

Fact and Fancy

The great John Hunter (1728-1793), famous anatomist and surgeon of the eighteenth century in London, is the central figure in Garet Rogers' novel *Lancet*, just published by G. P. Putnam's Sons. The novelist makes him infect himself intentionally with a "dreadful disease" as an experimental study, but Garrison states that he accidentally inoculated himself with lues, but purposely delayed treatment in order to study the disease in his own person.

The novelist uses the fact of such infection to account for Hunter's "outrageous irascibility in his later years, when his mind and body were corroded

by the disease with which he had infected himself intentionally as an experiment, and also to account for his uncouth person."

Literary purpose may be served by the novelist's version but Garrison's record is authoritative.

Bizarre Ailments

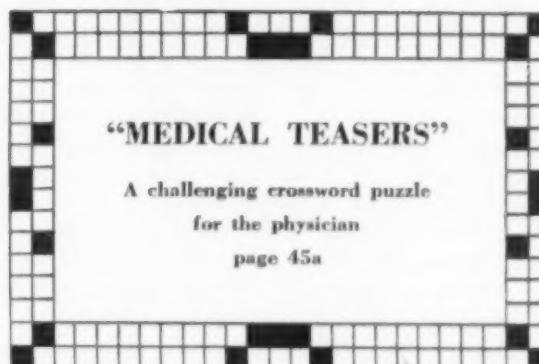
The sweating sickness was described by Caius (1552). Garrison thought it was a modality of influenza that was spread by the Crusades (the term influenza derives from influentia, implying celestial influence). The sweating sickness (*sudor Anglicus*) prevailed epidemically in 1486, 1508, 1528 and 1529.

Gruner wrote a history (1774) in which the sweating sickness is discussed.

The dancing mania also prevailed epidemically; the element of religious enthusiasm in it led to processions of dancing patients in the Strassburg epidemic of 1418, who proceeded in this wise to the chapel of St. Vitus in Zabern for treatment (hence the name St. Vitus's Dance).

The great artist Breughel painted these parades. There were dancing manias on a large scale in 1374 at Aix, Cologne and Metz.

Very queer behavior, indeed; but is there any reason to suppose that we have seen the last of similarly bizarre ailments?



Guest Editorial

PERRIN H. LONG, M.D.*
Brooklyn, New York

Pharmaceutical Advertising and Promotional Literature

When a physician establishes himself in practice, he begins to receive a substantial quantity of letters, brochures, circulars and other literature from various components of the pharmaceutical industry. And although the intent and value of this plethora of literature is frequently questioned by doctors, a number of physicians who have devoted considerable thought and study to the subject of medical advertising are convinced that the literature made available to physicians by the pharmaceutical industry represents one of the major factors in the postgraduate education of the American physician.

"If this is the case," one may ask, "how well is the job being done? How thorough is this 'education by literature'?" Perhaps most significant to the answer is the fact that pharmaceutical product information is based primarily on the pharmacological, toxicological and clinical acumen of our scientists and technicians. We can presume, therefore, that the information stems from reliable source material.

When an occasion arises which leads us to question the information pre-

sented, it is usually because one of our community of physicians has been overenthusiastic, uncritical or has misinterpreted his results. Certainly, in these instances we cannot hold the pharmaceutical industry wholly responsible.

The pharmaceutical companies do have an obligation to check the statistical accuracy of clinical studies under their direct sponsorship, and further, to select the physician-directors of such studies from the ranks of investigators whose integrity is unquestioned.

But the industry does not sit in judgment on members of our profession. In the last analysis it is through the exercise of each physician's own critical faculties that all medical literature must be evaluated. As physicians, we are the final judges of the competency of our colleagues.

The pace of pharmaceutical research has increased at an amazing rate over the past decade. And despite the many criticisms leveled at pharmaceutical literature, physicians have come to de-

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pend to an increasing degree on pharmaceutical advertising and promotion for capsule information concerning new products.

In this, medical journal advertising plays an important role. Most medical journals could not exist, except at very considerable increases in their cost to the physician, without the support of advertising created and paid for by the pharmaceutical industry. (Obviously, this support of journals would not exist to any important extent if the pharma-

ceutical companies weren't convinced of the fact that physicians read advertising material published in medical journals.) And the main reason the physician devotes the time to digest information presented in the advertising is so that he can keep up-to-date on the latest developments in pharmaceutical products, quickly orient himself on indications for the use of new and old products, and read in abstract much of what is coming to his desk in the form of promotional mail.

Clini-Clipping



Angioneurotic Edema

RHINOLARYNGOLOGY

I. CHESTER McHENRY, M.D., F.A.C.S.*

Sinus Disease, Bacterial Allergy, and Bronchial Asthma

Sheppard Siegal and associates (*A.M.A. Archives of Internal Medicine*, 97:431, April 1956) report a complete investigation of the paranasal sinuses in eighty-two patients with bronchial asthma. There were fifty-eight patients with intrinsic asthma, and sinus infection was found in twenty-five of these patients while thirty-three showed no sinus infection. In the twenty-four patients with extrinsic asthma, sinus infection was present in only five, while nineteen showed no sinus infection. Sinus roentgenograms showed evidence of abnormal sinus membrane in forty-two cases; sinus infection was found in twenty-four of these cases, but eighteen were free of infection. In the twenty-nine cases in which the sinus roentgenograms were negative, only nine showed sinus infection and twenty showed no infection. Thus it is evident that while sinus infection is "more frequently associated with abnormal sinus membrane," sinus membrane disease may occur without infection, and infection may be present when the sinus membrane is normal. Repeated bacteriologic studies of the sinus secretions showed transient and multiple infections; this suggests that

the microorganisms that were isolated cause infection on a previously diseased membrane, rather than cause the abnormal changes in the sinus membrane. In bacteriologic and pathological studies of the antral membrane in sixteen cases, it was found that in seven of these cases the antral membrane showed an allergic reaction, but cultures were negative for pathogenic organisms; four membranes showed "small to moderate" numbers of pathogenic organisms; and five membranes showed a larger number of pathogenic organisms. These findings indicate that hyperplastic allergic alterations in the sinus tissues can occur without infection and that infection is not "a primary cause of asthma but rather a complication superimposed on altered sinus membrane."

COMMENT

We are inclined to agree with the summation in the last sentence of the above abstract and

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add that these are sometimes extremely difficult problems from the standpoint of therapy.
L. C. McH.

The Clinical Application of Bioflavonoid in Otolaryngology

H. B. Goldman (*Eye, Ear, Nose & Throat Monthly*, 35:246, April 1956) reports the use of a bioflavonoid compound (C. V. P.) in 565 surgical cases, chiefly tonsillectomies and 65 nonsurgical cases, chiefly epistaxis, for the control of bleeding. For children a syrup base was used, containing 100 mg. ascorbic acid, 100 mg. bioflavonoid and 0.66 mg. menadime per teaspoonful; in the preparation of children for operation, a teaspoonful of this syrup was given three times daily six to eight days before operation, and four days after operation; for older children, two teaspoonsfuls of the syrup was given three times daily for the same period. For adults capsules were used, in a dosage of ten capsules four times a day, each capsule containing 100 mg. bioflavonoid compound and 100 mg. ascorbic acid; menadime was given in a separate capsule once daily, each capsule containing 5 mg. In the 530 tonsillectomies in which the bioflavonoid compound was employed, there was "a slight but definite" decrease in the initial bleeding as compared with the controls; there was a definite decrease in the postoperative oozing of blood; a clamp and tie were used much less frequently and pressure with sponges was rarely required. Bleeding was also much reduced in cases in which adenoidectomy was done; clamps, sutures or postnasal packings were rarely necessary. The bioflavonoid compound was also used in the treatment of forty-seven cases of epistaxis with recurrent bleeding and in one case with hemoptysis. There was a marked

decrease in the number of nosebleeds when the bioflavonoid was taken daily for several months after an acute nosebleed. In children the effective dose was two teaspoonfuls of the syrup (200 mg. each of the bioflavonoid compound and ascorbic acid), and for adults, three capsules a day (300 mg. each of bioflavonoid compound and ascorbic acid.)

COMMENT

We do not at all question the author's findings, his statistics nor his conclusions. However, we have never yet seen an article about a new preparation, which had to do with post-operative hemorrhage following adenoidectomy and tonsillectomy, which indicated that the preparation under discussion was not of any particular benefit. There have been over the years a great many articles regarding one preparation or another which indicated that there was less hemorrhage following their use. However, all of them have eventually fallen by the wayside, so far as general usage is concerned.

L. C. McH.

APC Viruses in Respiratory Diseases; Clinical Aspects

R. H. Parrott (*Laryngoscope*, 66:628, June 1956) reports that examination of tonsillar and adenoid tissues obtained at operation on children showed that over 50 per cent of the tissue examined showed the presence of viral agents, which have now been named adenoidal-pharyngeal-conjunctival (APC) viruses; at least ten immunologically distinct types of APC viruses have not been distinguished. Serological studies, especially neutralization tests, indicate that more than 50 per cent of infants six to eleven months of age have been infected with APC virus; evidence of infection shows "a sharp rise" in ages one to two. A study of an outbreak of APC virus infection among children in a summer day camp showed that a high fever (102 to 104°) for four to five days occurred

in almost all patients; pharyngitis occurred in 75 per cent and enlargement of the cervical glands, especially the posterior glands was also a common symptom; conjunctivitis, usually bilateral, was noted in 75 per cent. Headache, malaise and weakness also occurred in about 70 per cent. The four major clinical findings in pharyngo-conjunctival fever due to APC viruses are, therefore, high fever, pharyngitis with posterior cervical lymphadenopathy and conjunctivitis. In the children in the summer day camp in which this epidemic occurred, the ages ranged from four to seven years and the attack rate was 72 per cent, indicating that children of this age period are highly susceptible to the disease; but there is evidence that immunity to the virus increases with age. The incidence of type 3 APC virus has been found to be high in pharyngo-conjunctival fever; and APC viruses of various types have also been found to be the cause of a respiratory disease in military recruits.

COMMENT

In another decade, we shall probably be confronted with a whole category of viruses much as we have been concerned with a great many bacterial organisms in the past. We shall probably also be seeking antibiotics or antiviral agents for each and all of them.

L. C. McH.

Paranasal Sinus Changes in Fibrocystic Disease of the Pancreas

C. L. Pennington (*A.M.A. Archives of Otolaryngology*, 63:576, June 1956), states that at the Babies Hospital of the Columbia-Presbyterian Medical Center, New York, it has been found that children with fibrocystic disease of the pancreas have various nasal symptoms, chiefly nasal suppuration and obstruction. All these children that were ex-

amined in the Department of Otolaryngology of the Hospital were found to have diseased paranasal sinuses. Such examinations showed general hyperplasia of glandular structures and dilatation of glands; the glands contain an excessive amount of eosinophilic-staining material. Recurrent bronchopneumonia occurs in children with fibrocystic disease of the pancreas; and nasal symptoms—nasal obstruction and nasal suppuration—frequently occur. With the recent use of antibiotic therapy in fibrocystic disease of the pancreas, more children survive this disease than formerly, and, as these children grow older, there seems to be less infection of the paranasal sinuses; but in these older children, X-ray examination shows evidence of sinus disease, although there are no clinical symptoms of sinusitis. The evidence indicates that in fibrocystic disease of the pancreas, there is "a generalized excretory glandular dysfunction," which affects the mucous membranes of the nose and paranasal sinuses because of "their glandular characteristics," so that sinusitis is to be expected in most cases of this disease. In such cases treatment of chronic sinusitis should be conservative. An illustrative case is reported.

COMMENT

It would seem that the mucous membrane of the nose and sinuses in patients with this disease is unhealthy and in poor condition to withstand the common respiratory infections. Hence, in a great many of them such infections become chronic.

L. C. McH.

A Superior New Nasal Decongestant: Clinical Evaluation of Tyzine in 675 Patients

H. C. Menger (*New York State Journal of Medicine*, 56:1279, April 15,

1956) reports use of Tyzine in a 0.1 per cent solution buffered to pH 5.5 to 6.5) as a nasal decongestant in 675 patients, whose ages ranged from six months to eighty-five years. Tyzine is chemically 2-(1, 2, 3, 4-tetrahydro-1-naphthyl) imidazoline hydrochloride. The Tyzine solution was used as a spray by the majority of the patients (565) and as nose drops by 110 patients. The nasal instillations were made four times a day by most patients, a few (fifteen patients) making instillation only three times daily, and others making instillations more frequently—five or six times or seven or eight times daily. In 610 patients the duration of treatment was seven days; a few patients used the solution for a shorter period of time, and fifty patients needed a long period of treatment, up to one month in three cases. The results were rated as excellent in 640 cases, i.e., relief of nasal congestion for three or more hours after each instillation of the solution; repeated instillations, as needed, maintained the relief for periods up to one month; twenty patients had fair results—relief lasting only one to two hours; and fifteen patients showed poor results with little or no relief. There were no side effects, such as local irritation or rebound congestion, and no rise in blood pressure even in patients with hypertension. There were three infants who occasionally showed drowsiness after instillation of Tyzine, but this has also been observed with the use of other nasal decongestants in infancy.

COMMENT

To us this seems to be merely another vasoconstrictor for use in nose drops. We already have so many useful medicaments along this line that the addition of another fails to stimulate very much interest. We suspect that

with continued usage of any of them, there will be rebound congestion or swelling of the nasal mucous membrane.

L. C. McH.

Treatment of Hay-Fever with Hydrocortisone Snuff

H. Herxheimer and M. McAllen (*Lancet*, 270:537, April 28, 1956) report the treatment of twenty-four cases of hay fever with hydrocortisone snuff. Hydrocortisone powder was ground "very finely" and supplied in capsules containing 15 mg. hydrocortisone acetate and 85 mg. lactose. The upper end of the capsule was pierced, the capsule was placed in a nasal insufflator so that a fine spray was produced. The powder was applied to both nostrils three times a day, using the 15 mg. hydrocortisone acetate daily. All these patients gave a history of severe hay fever during the summer months for two years or more, and all gave positive skin reactions to grass pollens; none had been desensitized to pollen within the year. Before inhalation of the powder, the nose was cleared by instillation of one or two drops of 0.02 per cent naphazoline into both nostrils. This preliminary treatment was discontinued as soon as the nose remained clear. The inhalations of hydrocortisone were continued for five days, then omitted, but if any symptoms recurred, its use was resumed. In all but one of the twenty-four patients, the symptoms were completely controlled during the first two weeks of treatment. Nineteen of these patients were followed up through the whole season, in seventeen the control of symptoms was satisfactory throughout the season; eight of these patients discontinued the treatment within three weeks without any recurrence of symptoms.

No side-effects of the treatment were observed in any case.

COMMENT

This is too good to be true. Using 15 mg.

of hydrocortisone powder sniffed into the nose in divided doses daily for five days to relieve symptoms for at least two weeks. Observers in this country have not been able to get anything like this kind of result over any considerable period of time.

L. C. McH.

OTOLOGY

L. CHESTER McHENRY, M.D., F.A.C.S.*

Ménière's Disease

H. M. Goodyear (*A.M.A. Archives of Otolaryngology*, 63:343, April 1956) states that "perhaps" 50 per cent of cases considered to be Ménière's disease are found on careful examination to be cardiovascular cases. In making the correct diagnosis, a study of the type of dizziness is important. The dizziness of Ménière's disease is a labyrinth dizziness, characterized by the sensation of objects moving around the patient in circles or by the sensation of being turned in a swing. In Ménière's disease the attacks of dizziness are sudden and severe, accompanied by deafness and tinnitus in one ear, and by cold pallor and sweating, nausea and vomiting, ataxia and nystagmus (toward the affected ear). In the treatment of Ménière's disease, the general condition of the patient is of importance in regard to treatment; foci of infection must be sought and adequately treated; such foci are not necessarily in the teeth or sinuses; gallbladder and prostatic infections may be a causative factor; the author has seen several patients with Ménière's disease who were relieved of symptoms after the removal of an in-

fected gallbladder. Severe attacks of Ménière's disease can be relieved with atropine sulfate or epinephrine given hypodermically; in one of the author's cases chlorpromazine given intramuscularly was also effective. Many patients with Ménière's disease have been relieved of symptoms by taking nicotinic acid (50 mg.) immediately after meals and one Bellargal tablet (belladonna alkaloids, ergotamine tartrate and phenobarbital) at bedtime. Histamine may be of value (one to four drops of 1:10,000 solution under the tongue once a day) or given by hypodermic injection. If medical treatment fails to give relief and attacks are severe and frequent, with increasing deafness and tinnitus, operation is indicated. For the operation, the author uses a perforator and burr to open the mastoid, which he prefers to the electric burr "for the occasional mastoid operator." The contents of the vestibule are destroyed. After the operation dimenhydrinate

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(Dramamine) is given hypodermically in a dose of 50 mg., one to three times a day; with this regime, patients are usually able to leave the hospital in five days.

COMMENT

We quite agree with the author's discussion indicating that very little so-called dizziness is actually due to a disturbance of the vestibular labyrinth. In our own experience, surgical treatment for Ménière's disease has been but rarely necessary. Surgical techniques are difficult and should be undertaken only by experienced otologic surgeons.

L. C. McH.

Present Status of Stapedolysis (Stapes Mobilization)

Victor Goodhill (*Laryngoscope*, 66: 333, April 1956) reports that he has done stapes mobilization (stapedolysis) in over 200 cases of otosclerosis, but complete audiometric data in the immediate postoperative period are available for only 189 of these cases. This operation can be employed in cases in which the fenestration operation is contraindicated; in the 189 cases in which stapedolysis was done, the fenestration operation would have been considered to be contraindicated in seventy-five cases, yet good results were obtained in thirty-nine of these cases with stapedolysis. Hearing losses occurred following operation in 15 per cent of the first 100 cases, and in 9 per cent of the second eighty-nine cases in which the technique had been improved. There was no case of labyrinthitis or cochlear damage in the entire series. Other complications were rare; there was no case of persistent vertigo postoperatively; the longest duration of vertigo (in one patient) was seven days; two patients, among the first ten cases operated, had dry central perforations, but there was no case of otorrhea. There were eleven

patients who showed significant threshold losses in a little over a year after operation; a survey of these eleven patients indicates partial re-ankylosis in six patients and probably complete re-ankylosis in five. In three cases in which the first stapedolysis failed to improve hearing, a second stapedolysis was done, resulting in improvement in two cases, and failure in one case; in another three cases in which stapedolysis failed, a fenestration operation was done, resulting in immediate postoperative improvement in all these cases. In the eighty-nine cases operated most recently, 56 per cent showed good results and 11 per cent "partial gains" in hearing. "Long range observation" is essential in all such cases.

COMMENT

This is another report of a considerable series of cases of stapes mobilization. This operation is undergoing development and improvement and in another year or two techniques will have become better stabilized and the results will be definitely improved, in our opinion.

L. C. McH.

Relationship Between Etiology of Hearing Loss and Resultant Audiometric Pattern

W. W. Wilkerson, Jr., and J. I. H. Doyle (*Laryngoscope*, 66:550, May 1956) report a study of 175 children with impaired hearing, six to fourteen years of age; because of unsatisfactory information in regard to medical history or in the report on the initial interview, 24 audiograms were discarded, and detailed study and analysis were made of 151 children. The audiograms were classified into eight groups. In the group with good hearing for all tones (group 1) there were twenty-six children; twenty-one of whom had slight hearing decrement, considered to be due

to otitis media or infected tonsils and adenoids. Only eight of the audiograms were in (group 2,) near normal hearing in low frequencies with a sharp "drop-off" in high frequencies; in three of these children no cause could be determined; in the others the causative factors were "randomly distributed," but there was some indication that this type of audiometric pattern is due to nerve damage of particular segments of the basilar membrane. There were seventeen children showing gradual high tone loss (group 3); in six cases there was otitis media or infection or enlargement of the tonsils, in five children, inflammatory neuritis had resulted from mumps, measles, whooping cough, or meningitis. The audiograms showed marked high tone loss (group 4) in twenty-four children; eight of these children had a history of birth injury; in six children the hearing loss was attributed to inflammatory neuritis. Thirty-two children (the largest group) showed moderate loss of hearing for all tone (group 5 audiogram); sixteen of these children had otitis media or infected or enlarged tonsils and adenoids; in seven the hearing loss was attributed either to rubella or heredity. There were twelve children whose audiograms showed marked loss for all tones (group 6); three cases each had otitis media or inflammatory neuritis. Twenty-one children showed rising audiometric contour (group 7); in three cases the hearing loss was of "psychological etiology." Eleven children had audiograms with trough-shaped curves (group 8); inflammatory neuritis and rubella were the most frequent etiological factors in this group. The chief etiological factors in the hearing loss in these 151 children were found to be otitis media or en-

larged and infected tonsils; and the etiological factor next in importance was inflammatory neuritis.

COMMENT

The most interesting thing about this study, is that a great deal of the hearing loss would seem to have been preventable if infection of the middle ears and infected and enlarged adenoids and tonsils had been properly cared for.

L. C. McH.

Status of the Stapes in Chronic Middle-Ear Suppuration

Shuji Goto, of Nagoya University, Japan (*A.M.A. Archives of Otolaryngology*, 63:683, June 1956) reports a study of the condition of the stapes in 113 cases of chronic otitis media in which operation was done and in twenty-two cases in which radical mastoidectomy had been done. In the 113 cases of chronic otitis media, in which the stapes was examined at the time of operation, it was found that the stapes was freely movable in 82 per cent, and that mobility was poor in twenty cases, with ankylosis in eleven of these cases; the stapes was absent in twelve cases and was extracted in six cases. These 113 cases include many of the cases previously reported; in the cases operated on more recently, the stapes was freely movable in 76 per cent, showed poor mobility in 10 per cent with ankylosis in 5 per cent; these figures show little difference from those of the previous study. The most marked pathological changes in the stapes were observed in cases with cholesteatoma formation. It may be concluded that in chronic middle-ear suppuration, the mobility of the stapes is poor in 8 to 18 per cent, and that the fenestration operation is indicated in 5 to 10 per cent because of complete ankylosis. In the

twelve cases of chronic middle ear suppuration in which the stapes was absent, both the incus and the malleus were absent in six cases, both the incus and the malleus were carious in four cases; and the incus was absent and the malleus carious and the incus was carious and the malleus normal in one case each. In the twenty-two cases in which radical mastoidectomy had been done, the stapes was absent in five cases, 23 per cent; it was extracted in one case; there was complete ankylosis of the stapes in four cases, poor mobility in four cases, and free mobility in eight cases.

COMMENT

Unless one has a great deal of experience, it would seem to us somewhat hazardous to attempt to mobilize the stapes or even find out whether it is mobilizable when operating for chronic infections in the middle ear and mastoid. Whether the fenestration operation can be done in cases of chronic middle ear suppuration would be also another idea to be considered very carefully.

L. C. McH.

Deafness and Vertigo From Head Injury

H. F. Schulnecht and R. C. Davison (*A.M.A. Archives of Otolaryngology*, 63:513, May 1950) state that they have found that partial, but permanent, deafness occurs in about 50 per cent of persons who suffer a blow on the head that causes unconsciousness; even a less severe blow may occasionally cause deafness. Usually the patient is aware of the loss of hearing, as a wide range of frequencies is involved. But if the hearing loss is for high frequencies only, the patient may not be aware of this loss, which is revealed only by audi-

metric tests. A longitudinal fracture of the temporal bone that extends through the middle ear and mastoid, causes conduction deafness; in these cases there may also be a perceptive deafness for high frequencies resulting from a stimulation injury to the organ of Corti. While the conductive deafness usually persists for only three to six weeks, recovery from the perceptive loss is rarely complete. Transverse fracture of the temporal bone causes damage to both the auditory and the vestibular function; the loss of hearing is marked, and there is also vertigo with nystagmus; while the vertigo gradually subsides, the deafness persists permanently. Perceptive deafness, in which the loss of hearing is greatest for high frequencies, may follow head injuries without fracture of the temporal bone; this type of deafness is similar to that caused by intense air-borne sounds. Experiments on cats showed that this type of deafness results from "violent displacement" of the basilar membrane and the organ of Corti with cellular injuries that may be reversible or irreversible. Positional nystagmus may result from a head blow or even from mild jarring of the head, and may not be associated with deafness; it is due to injuries of the utricle and/or the saccule.

COMMENT

These authors are among those most experienced in the results of head injury, so far as hearing is concerned. The findings would seem to indicate that while hearing loss is not a predictable result of a head injury it is of frequent occurrence and varies a great deal both in severity and in type of hearing loss.

L. C. McH.



A city within a city, the modern, 2700-bed Acute Unit at County provides 64 wards for the care of the indigent sick of the Los Angeles area. Up-to-date facilities for diagnosis and therapy are available to the hospital staff. Last year nearly 500,000 outpatient visits were recorded here.

Los Angeles County Hospital

Known as "The Rock" by its staff, the Los Angeles County Hospital maintains a house staff of 340 to help care for some 100,000 in-patients each year.

Only a few miles north and east from the center of downtown Los Angeles is the Los Angeles County Hospital. An imposing landmark, the hospital is built upon a hill with the nineteen stories of its Acute Unit dominating the surrounding area.

Affectionately known to its staff as "the Rock," the Los Angeles County Hospital is one of the largest hospitals in the United States, housing beds for 3504 patients. Through its doors about half a million outpatients pass each year, while almost 100,000 patients are hospitalized yearly on the wards of its 26 services.

The daily in-patient census of 2720, added to some five thousand hospital employees, gives the hospital a census larger today than that of the City of Los Angeles in 1878, the year the hospital was founded.

Originally a 100-bed hospital, the Los Angeles County Hospital has continued

to expand, keeping pace with the rapid influx of population to the Southern California area.

At present the hospital consists of 61 buildings on a 56-acre tract of land. The four largest buildings in the hospital complex are used for the hospitalization of patients; the largest of these is the Acute Unit.

Patient Units Completed in 1932 with 2709 beds, the Acute Unit is a modern structure, completely equipped with up-to-date diagnostic and therapeutic facilities.

With its 64 wards, the Acute Unit is practically a city within itself, providing almost every service needed for complete inpatient and outpatient medical care.

The other "patient units" are a 265-bed Psychiatric Unit, completed in 1951; a 254-bed Communicable Disease Unit, erected in 1955; and a 350-bed Chest Medicine Unit, which is the only



The broad front veranda of the first Los Angeles County Hospital formed a peaceful background for this "family portrait" of the hospital staff. Photo taken in 1897.

portion of the old hospital currently in active use for patient care.

The hospital's only "off campus" unit is the newly-acquired, 200-bed John Wesley County Hospital which handles a part of the hospital's heavy obstetrical

census and provides facilities for the rehabilitation of certain chronic disease cases.

Hospital Plant Other structures, separate within the walls of the hospital area, provide residences for doctors and

In this aerial view of the Los Angeles County Hospital the Acute Unit may be seen (center) with the University of Southern California Medical Research building (upper right). In the foreground is the Psychiatric Unit (at right) and the hospital's Communicable Disease Unit (left).



Schedule of Activities Los Angeles County Hospital

Unless otherwise specified the meetings listed below are held at weekly intervals. USC — University of Southern California; CME — College of Medical Evangelists. How do they compare with the activities of your hospital?

Monday

- 7:30 Combined UCS-CME Eye Rounds
- 8:00 CME Gyn Rounds
- 8:30 CME Urology Staff Rounds
- 8:30 Systemic Review, Micro-Pathology
- 9:00 USC Cardiovascular-Surg. Conference
- 9:00 Gastroenterology Conference
- 9:30 USC Surgical Staff Rounds
- 10:45 Psychiatric Case Conference
- 11:00 OB Conference—USC & CME
- 11:00 TB Interns' Lecture
- 1:00 Chest Disease Staff Conference
- 1:00 Psychosexual Development Conference
- 2:00 USC & CME Student and House Staff Rounds, Contagious Disease Unit
- 2:30 USC Medical Staff Rounds
- 4:00 X-ray Therapy Conference
- 6:30 Urology Seminar—(Twice monthly)
- 6:30 Gyn Staff Meeting—(Every 4th Monday)
- 6:30 Dermatology Staff Meeting—(last Monday)

Tuesday

- 7:30 USC Urology Staff Rounds
- 8:00 USC Contagious Disease Lectures
- 8:00 Children's Orthopedic Conference
- 8:30 Pediatric Staff Conference
- 10:00 Thyroid In-patient Conference
- 10:30 Contagious Dis. Staff Case Presentations
- 11:00 CME Cardiac Conference
- 11:30 Pediatrics, Urology Conference
- 12:00 Medical Residents' Journal Club
- 1:00 Psychiatry Clinic Conference
- 1:30 Eye-Strabismus Clinical Conf. & Path. (alternate weeks)
- 3:00 Autopsy Review
- 4:00 X-ray Conference
- 6:45 Anesthesia Seminar
- 7:30 Ophthalmology Staff Meeting—(2nd Tuesday)

Wednesday

7:30 Pediatric Surgery Grand Rounds—(during school year)
8:30 Dermatogoy Grand Rounds
9:30 Tumor Board Conference
10:00 USC Surgical Staff Rounds
10:20 Clinical Conference in Psychiatry
11:00 Combined Services Medical Staff Conference
11:30 Contagious Disease Lectures
12:15 Psychosomatic Medicine Conference
1:00 USC—ENT Conference
1:00 Chest Medicine Seminar—(once monthly)
2:00 Psychotherapy Conference
2:00 Pediatric X-ray Conference
2:00 TB Interns, Lectures
2:15 In-Service Contagious Dis. Lectures
3:00 Urology X-ray Conference—(alternate weeks)
4:00 X-ray Clinico-Path. Conference
4:00 Review of Anatomy—(residents in all surgical specialties)
5:30 Orthopedic Pathology—(alternate weeks)

Thursday

7:30 USC Gyn Conference
8:00 CME Surgical Staff Rounds
9:00 USC Student, House Staff Rounds Cont. Dis.
9:00 USC Cardiology Ward Rounds
9:30 USC Endocrine Rounds
10:00 Staff Conference: Psychiatry
11:00 EKG Conference
12:30 Brain Cutting (Dr. Nielson)
1:00 Clinical Conference: Psychiatry
1:30 Brain Cutting (Dr. Courville)
3:00 Neurology Grand Rounds (Dr. Nielson)
4:00 Medical Resident Rounds
4:00 Pediatric Basic Science Seminar—(monthly)
4:00 X-ray Conference
4:00 Neuroanatomy and Physiology Seminars
4:20 Orthopedic Basic Science Seminar
6:30 Neurology Staff Conference and Meeting of Los Angeles Neurological Society

Friday

8:30 Thyroid Rounds
8:45 Gastroenterology Clinic
9:00 Contagious Disease Rounds

10:00 Newborn Seminars
10:15 USC Surgical Staff Rounds
10:30 Psychiatric Staff Conference
11:00 Hematology Staff Conference
11:00 Pediatric Lectures to Interns
11:00 Combined Surgical, Gastroenterology Rounds
12:00 USC Pediatric Cardiac Conference
1:00 Psychiatric Case Presentations
1:00 Neuro-radiology Conference
1:30 X-ray Conference on Chest Diseases
2:00 Staff Conference, Occupational Therapy, Social Service or Psychologists
4:00 Grand Rounds and Staff Conference, Chest Medicine

Sunday

9:30 Dermatology Staff Grand Rounds
10:00 Dermatology Pathology Seminar



A well-trained nursing staff is an important part of County's team. Physician assisted by nurse, performs spinal tap on child. Below, Dr. Alfred J. Cannon and nurse set up oxygen tent for patient.



nurses, utilities for the operation of the hospital plant (laundry, pharmacy, power plant, etc.) and facilities for research.

The entire hospital complex is a division of the Department of Charities of the County of Los Angeles and maintained by the taxpayers of the County for the care of the indigent sick and the dependent poor who are acutely ill. There are no facilities for the care of "private" patients.

Clinical Material As already indicated by the number of hospital admissions yearly, the wealth of clinical material available to the house staff is prodigious. As an example, approximately 12,000 babies are delivered in the hospital each year, nearly 14,000 major surgical procedures are performed, and 2400 autopsies are done.

Hospital Staff The physician staff of the hospital consists of four groups.

1) a staff of more than 750 board certified or qualified physicians who visit the hospital as attending physicians and make regular ward rounds on the hospital patients.

These physicians are members of the faculties of the medical schools of the University of Southern California or the College of Medical Evangelists.

2) a resident physician staff of 190, whose distribution throughout the hospital's 17 specialty services is indicated on the appended table.

3) an intern staff of 150.

4) A permanent staff of approximately 75 physicians who are full-time County employees and who direct patient care and training activities and supply continuity of supervision to residents between the visits of the attending staff.

Los Angeles County Hospital employs approximately 1750 nurses and attend-

Cyril B. Courville, M.D., Professor of Neurology, College of Medical Evangelists, presides over weekly brain-cutting session with members of the house staff looking on.



Assisted by operating room nurses, a resident and intern surgical team goes into action in one of the well-equipped major surgery rooms in County's Acute Unit.



Nurse looks on as Dr. William Grant places a naso-gastric tube to enable aged patient to take nourishment.

ants and maintains a three-year Nursing School which graduates 100-150 registered nurses yearly.

Research The hospital maintains several special units, some as separate buildings, for research activities and provides \$500,000 each year for the support of research projects. In addition, the medical schools conduct extensive research projects within the hospital or in adjacent units, such as the new University of Southern California Research building, which is located just across the street from the hospital. Active interest in medical research and education has made County Hospital a pioneer in the development of diagnostic and therapeutic facilities for this area. In the recent past, for example, the hospital was the first in Los Angeles County to provide facilities for cardiac catheterization, the artificial kidney, the diagnostic and therapeutic use of radioisotopes, etc., thus expanding not only patient care but also stimulating and advancing medical progress in the Southern California area.

Other Services A pleasantly decorated doctors' dining room is separate from those for nurses and other hospital employees. Doctors are served at individual tables seating four, and at regularly prescribed hours during the day. If the doctor's duties preclude his dining at regular hours, late meals are held for him. Los Angeles County Hospital has the reputation of offering excellent fare.

The hospital library is located in the Acute Unit and contains 10,000 medical volumes and subscribes regularly to nearly 300 medical journals. Included in its medical portion are such up-to-date teaching aids as a complete library of audio-digest recordings. In addition

to its scientific portion, the library maintains a non-scientific collection of fiction, non-fiction and periodicals for the use of the hospital staff.

Religious services are held each Sunday in the main auditorium of the Acute Unit for members of the hospital staff and ambulatory patients.

Recreation The usual recreational facilities for off-duty hours are available on the hospital grounds (i. e. television, tennis, ping pong, volley ball, etc.).

The hospital is conveniently located within one mile of the hub of the Los Angeles freeway system. By car it is five minutes from downtown Los Angeles, 25 minutes from Hollywood, 40 minutes from the beaches and 2 hours from the mountains. As the heart of a county which has a population of above five million residents and caters to a heavy tourist trade, Los Angeles offers a full spectrum of entertainment activities ranging from sports events, dining and night clubbing, to drama, music and art.

Drug Day The Intern - Resident Council Conducts a monthly meeting of the house staff and the local representatives of the drug companies. Held in the main auditorium of the Acute Unit, "Drug Day," as it is called, is one of the most popular meetings of the month. It provides the house staff with an opportunity to obtain information on newer drug preparations as well as a chance to collect samples for family use. Many a baby has been fed through its infancy by arrangements made at these meetings. After the departure of the detail men, business meetings with discussion of intern-resident problems are held and films of scientific or purely entertainment interest are shown.

In addition, special meetings for dis-



A bearded Santa Claus, strongly supported by a willing group of nurses, keeps the annual Christmas party for children of the house staff from getting out of hand. Below, annual resident-intern formal attracts house staff couples.





"Drug Day," held each month in the main auditorium of the Acute Unit, gives physicians a chance to meet with representatives of the pharmaceutical houses, view company exhibits and films. Physicians (from left) are: Drs. John Pierandozzi, surgery; Forrest Johnson, Neurosurgery, and Thomas Murietta, Obstetrics-Gynecology.

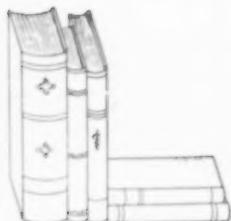
cussion of topics such as "Medical Insurance," "Setting Up a Practice," etc., are held by the Council at intervals throughout the year.

Similar special activities are held regularly by the Medical Wives Club and dances and social events are sponsored each year for the house staff by

the School of Nursing and the local medical schools.

Practice Opportunities Opportunities for practice are almost unlimited in Southern California. As the most rapidly growing area in the United States, Greater Los Angeles has an ever-increasing need for physicians.





Medical Book News

Edited by Robert W. Hillman, M.D.

Pediatric Nutrition

Infant Nutrition in the Subtropics and Tropics. By D. B. Jelliffe, M.D., Geneva, [Switzerland]. World Health Organization, [1955]. 8vo, 237 pages, illustrated. Cloth, \$5.00. (World Health Organization Monograph Series #29)

This is another major medical product of international effort. From his own extensive experience and direct association with other experts and their warm-climate problems, Dr. Jelliffe has compiled an authoritative and fascinating account of the nutritional disorders affecting large segments of the world's younger population. Well organized and interestingly related, the material is discussed in 6 chapters, presenting background (anthropological) data, present infant feeding practices and problems, and methods of treating and preventing these mass afflictions. Much more than a description of the clinical conditions encountered, the book is a comprehensive evaluation of the multiple circumstances involved, with appropriate emphasis on the cultural factors that compound the basic problems of production, storage, distribution and consumption of food. The analyses conducted and the solutions proposed

are those of a qualified observer, who, with ample knowledge of the theoretical and ideal, is essentially concerned with practical answers. The role and techniques of health education are appraised in a manner that decries any isolation of this discipline and identifies it with a realistic program of service. No one in public health—particularly in "MCH"—can afford to miss this illuminating exposition of problems generic to the entire field. Pediatricians and those in general medicine will be equally rewarded for exploring major segments of this genuine contribution.

ROBERT W. HILLMAN

Medical Genetics

Counseling in Medical Genetics. By Sheldon C. Reed, Ph.D., Philadelphia, W. B. Saunders Company, [c. 1955]. 12mo, 268 pages. Cloth, \$4.00.

An excellent short compilation of the proven facts of human medical Genetics is presented in attractive form by the Director of the Dight Institute for Human Genetics under the title "Counseling in Medical Genetics." The practical value of the authoritative information disclosed in this manual-sized volume can be of inestimable worth to every

Important:

ROENTGEN MANIFESTATIONS of PANCREATIC DISEASE

By
MAXWELL HERBERT POPPEL, M.D.

Professor of Radiology
New York University
Post-Graduate Medical School

"The author presents all the facets in a most detailed and yet modest way. This is a very intelligent book, admirably combining radiology with anatomy, physiology, and pathology. Its illustrations are excellent."—*The Lancet*

"This book will clearly be a standard work for many years to come."—*British Medical Journal*

"The appreciation and correlation of the roentgen manifestations permit a crystallization of ideas which help to reflect the underlying basic pathological mechanisms in their various static and dynamic sequences. This often permits a pathologic translation, thereby harmonizing the diagnosis with the actual disease."—*The Review of Gastroenterology*

"In the complex problem of diagnosing pancreas affections the roentgenologist can be of valuable assistance to the clinician. Just what the roentgen methods are capable of achieving in this field has been compiled for the first time and is presented authoritatively and critically and at the same time concisely and completely in this volume."—*New York State Journal of Medicine*

406 pages 218 illustrations
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Springfield, Illinois

practicing physician. The evasively ignorant answer that "Lightning never strikes twice in the same place" to the questioning parent of a genetically scarred child will be replaced by well authenticated predictable percentages for future offspring if this handy treatise is available for ready reference. Obstetricians in particular should find this presentation of an authority in the field of human genetics as a more than desirable addition to a necessarily limited number of basic texts used for frequent references.

ALFRED A. SCHENONE

Tuberculosis

Whys and Wherefores in Tuberculosis.

By George Day, M. D. London, England, National Association for the Prevention of Tuberculosis, [1955]. 12-mo. 44 pages. Paper, 3/6.

This brief forty-four page booklet is designed to give the patient who is under treatment for tuberculosis a brief survey of the disease. In simple, non-technical language it presents data on the history of tuberculosis, on the mode of transmission of the disease, on factors involved in resistance, and on the various types of therapy.

Patients often find it difficult to understand why surgery is recommended for some and not for others. It might have been well to devote more space to this subject. It might have been wise to omit the statement that the discovery of a completely efficacious drug that would destroy all tubercle bacilli would "inevitably lead to world famine and wars." Patients with tuberculosis are interested in the cure of their disease and not in the problem of future world over-population.

MILTON R. LOURIA

MEDICAL TIMES

Investing For The Successful Physician

Prepared especially for Medical Times by C. Norman Stabler,
market analyst of "The New York Herald Tribune."

A month ago we were reading predictions of what 1957 holds for the world of business and for investors. We were surfeited with advice. These words of wisdom came from wise men. It would seem that from this potpourri, by now each of us should have been able to distil the few drops of "essence-de-info" one needs to make of 1957 a year about which one would boast to one's grandchildren.

The trouble is there are too many conflicting elements in the mixture. That is not surprising. Let your mind travel back to a year ago today, and ask yourself whether it was then humanly possible for the wisest of the wise to warn us that 1956 would present the world with a problem named Nasser, that he would seize the Suez Canal, that England and France would attack in a vain effort to re-control it,

and that their ally of two world wars, the United States, would be the principal power in persuading them that it was a matter for the United Nations?



C. Norman Stabler

That is only a sample of what the oracle of a year ago would have had to know. It is the international angle. There was plenty of an equally unpredictable nature on the domestic front. Who could have foreseen the slump in automobile sales,

the steel strike and the repercussions of the tight money policy?

These items are mentioned merely to illustrate the difficulties of looking ahead in business and in investment. Our new world of scientists can tell us of the laws of physics, chemistry, electronics and atomic power, and they are working assiduously in their attempt to find out what makes people the way they are, but the surprises of each year tell us they haven't found the secrets.

TEN BIGGEST BUSINESS STORIES OF '56

One more observation along this line, because we do not wish to belabor the point. The effort is to emphasize the unforeseen factors that can affect the pocketbooks of each of us.

What were the biggest business stories of last year? How many of them did you foresee? Did you read of anyone else foreseeing them in advance of their becoming public knowledge?

It is anyone's privilege to decide for himself what he considers were the biggest business stories. The firm of Merrill Lynch, Pierce, Fenner & Beane took a survey through the offices it has in all parts of the country, in an attempt to determine the consensus. Results represent the thinking of customer representatives and the customers themselves.

Here were last year's ten biggest business stories, in the opinion of those who submitted replies:

1. Tight money. That was a big event, but not something that happened at any one specific moment. It was, and is, a policy adopted by the Federal Reserve Board in an effort to stem inflation, and it was caused by an excess of the demand for credit over the available supply. The latter reflects too little saving.

2. The public offering of Ford Motor Co. stock. This major motor concern had been family owned since its in-

ception. Now it is a public company, listed on the Big Board. Early buyers of the shares have not been too happy about the market action.

3. The steel strike. It was settled with a three-year contract, which set a pattern for industry.

4. A halt in the downtrend of commodity prices.

5. Continued prosperity. Industrial production, employment and national income reached new peaks.

6. The Federal highway programs. A \$33,000,000,000 program was enacted by Congress. Cement stocks responded and, as the program progresses, it should stimulate various others in the heavy construction industries.

7. Living costs. An uptrend was resumed, and we have all become aware of the impact of the wage-price spiral.

8. The stock market. The bull market, our oldest in history, levelled off.

9. The auto slump. It exceeded expectations and was severe, although total output was still our fourth largest.

10. Home building. The total declined, partly because of tight money, which made borrowing more costly. Heavy construction continued in large volume. There is the possibility that the decline in home building may have a salutary effect, as real estate is believed to contain more inflationary elements than the stock market.

BETS OF THE BIG BOYS

We are more interested now in what is ahead. If we knew that we could shape our investment policies more intelligently. What do the big executives of our major companies really expect

to encounter in the next few months?

The surest way of prying into their minds is to note their preparations. A man may say he thinks we will have a storm before nightfall, but does he take

his umbrella? If he doesn't, then possibly he was just talking and doesn't really expect rain.

Does a man who assures you a certain horse will win put his own money on it? If you really intend to go to that formal bridge party Saturday, which you know will be a bore, have you seen to it that your dress clothes are pressed?

Assurances are more convincing when they have the element of solid backing. Therefore it may behoove us to pay attention to the announced intentions of this or that major company.

A recapitulation of their plans indicates they expect plenty of business, and are ready to risk their corporate funds to prepare for it. There are individual cases of reductions below the 1956 total, but the overall estimate is that American industry will shell out somewhere between \$37,000,000,000 and \$40,000,000,000. This would compare with an estimated \$36,000,000,000 last year.

So the total gives promise of being a little larger. If 36 billion dollars brought us new highs in production and employment last year, then presumably another billion or so this year should keep the wheels turning.

Let's look at a few individual budgets.

- American Telephone & Telegraph Co. tops the list, with plans on its drawing boards to spend \$2,500,000,000 this year for new telephone facilities. This is the largest annual budget for a single company ever recorded. The insatiable demand for telephone service makes it necessary.

- Standard Oil (N.J.), the world's largest oil company, is second on the list. It will spend \$1,250,000,000 this year against \$1,000,000,000 in 1956.

Its new figure, historically speaking, is topped only by A. T. & T.'s 1956 outlay of \$2,200,000,000.

- General Motors Corporation is the only other company that ever spent as much as a billion dollars a year. It did so in 1956, but this year has reduced its expected outlay to \$750,000,000.

- Standard Oil Company of California expects to top last year's figure of \$350,000,000, which was a record. Socony Mobil spent \$340,000,000 last year and expects to spend \$425,000,000 this year. Ford Motors has cut its intentions to \$439,000,000 against \$517,000,000 last year.

- Other major programs, all of which contemplate greater expenditures of the multi-million dollar variety, are on the boards for Standard Oil of Indiana, Aluminum Company of America, Republic Steel and Texas Company. DuPont expects to duplicate last year's total of \$160,000,000.

- General Electric plans the expenditure of \$310,000,000 over the next two years. Numerous other expansion plans have been announced, and while a few are smaller, the total is higher, and it bodes well for the economy.

- The steel industry, taken as a whole, looks to the addition of 15,000,000 tons to its steel making capacity over the next three years. In addition it figures it will have to spend at least \$1,000,000,000 a year in each of the next five years just to replace facilities that become obsolete.

It is statistics such as these, which are virtually incomprehensible to the ordinary mind, that lead one to believe that the heads of industry expect the economy to move forward. At least we know they are planning it that way.

Where is the money coming from? As in the past, much will come from the reinvestment of past earnings. Especially since the period of tight money, corporations have become more inclined to retain a good portion of their net income. It means that cash dividends to stockholders have not been as liberal as they could have been, but managements have figured it is better for the stockholders, in the long run, if they get along with relatively small cash payments and their corporation can avoid going into the capital market to borrow. Frequently they issue dividends

in stock, instead of in cash, to help keep the stockholder happy.

Some will have to borrow. That is more expensive than it was a year ago. If their stocks have a good following in the marketplace, they may be able to raise funds through the issuance of rights to purchase new shares. In that event they avoid increasing their debt; but they increase the number of shares which eventually will split up future earnings. Much of their trouble could be avoided if there were more savings by the public. This would help ease the present stringency of credit.

DRUGS ON THE MARKET

The firm of Paine, Webber, Jackson & Curtis, takes rather a jaundiced view of the stock market as a whole, but has kind words to say of prospects for the drug industry. It believes that the general market is likely to be on the defensive, considering such conditions as

tightening money, declining bond prices, growing evidence that corporate profits are not keeping pace with sales, international tensions and the further postponement of tax relief.

For that reason it advised its clients in December that, "Until some time after

Guide For Investors

Based on recommendations of the Securities and Exchange Commission in cooperation with the New York Stock Exchange, American Stock Exchange, National Association of Securities Dealers and others.

1. Think before buying, guard against all high pressure sales.
2. Beware of promises of quick spectacular price rises.
3. Be sure you understand the risk of loss as well as the prospect of gain.
4. Get the facts—do not buy on tips or rumors.
5. Give at least as much thought when purchasing securities as you would when acquiring any valuable property.
6. Be skeptical of securities offered on the telephone from any firm or salesman you do not know.
7. Request the person offering securities over the phone to mail you written information about the corporation, its operations, net profit, management, financial position and future prospects. Save all such information for future reference.

the bond market straightens out, a really aggressive policy in stock trading would seem inadvisable, except in special situations which give promise of ability to more or less ignore the general trend."

An exception to this general formula, it believes, is the drug industry. It believes this holds special merit, and observes: "The pharmaceutical industry offers a particularly attractive investment medium at this time. Aided by the probable introduction of new antibiotic products and increased use of mental drugs, industry sales and earnings this year are expected to continue their upward trend. In 1956, sales of major drug companies were up nearly 15% over 1955, with earnings recording an even greater advance. Moreover, *investors should consider the relative immunity of the industry to setbacks in the general economy.*

"The achievements of drug manufacturers were recently emphasized by a report that life expectancy at birth reached 70 years in 1955 for the first time in

history. Record industry sales of over \$2 billion in 1956 is another mark of successful growth."

It adds that the near-term outlook should permit most drug stocks to give a better-than-average market performance, and that "the ethical drug business also possesses above-average long-term growth prospects. Many of the proprietary companies have diversified into the ethical field which now accounts for about two-thirds of total drug sales.

The firm further states that, "Favorable basic factors include our increasing and aging population, high personal income, improving world health standards and a continued flow of new drugs from the laboratories. The typical drug concern spends between 4% and 5% of sales on research and new product development. While such drugs as antibiotics, hormones and tranquilizers have conquered many diseases, many fields remain to be conquered such as heart disease, cancer, mental illness, and the common cold."

TEN STOCKS FOR INVESTMENT

Those who are trying to forecast this year's stock market agree on one thing: this is a time to be discriminating. It is quite conceivable that we will have a mixed market which will answer neither to the name of bull or bear. Perhaps it will be a series of small moves, a parade of youngsters of both species, or calves and cubs.

In times of such uncertainty it is reasonable to expect the search to concentrate on shares of high-grade investment companies but not those that have been the leaders. These latter are as sound as ever, but there is a suspicion the bluest of the blue chips have been

advanced to a point where their present prices may have over-discounted their immediate future.

The "Financial World," at the turn of the year, selected a list of ten which it regards as attractive for the reinvestment of funds. Their dividend rates appear to be secure, and in most cases yields are attractive.

The information set forth herein was obtained from sources which we believe reliable, but we do not guarantee its accuracy. Neither the information nor any opinion expressed constitutes either a recommendation or a solicitation by the publisher or the authors for the purchase or sale of any securities or commodities.

TEN STOCKS FOR INVESTMENT

	EARNED PER SHARE				DIVIDENDS				
	Yearly 1954	1955	9 Months 1955	1956	Paid Since	Paid 1956	Annual Rate	Recent Price	Recent Yield
American Can	\$2.53	\$3.04	\$2.46	\$2.38	1923	\$2.00	\$2.00	40	5.0%
Federal Paper Board	4.01	3.55	2.34	3.32	1948	1.80	2.00	34	5.9
Gillette	2.77	3.13	2.26	2.47	1906	2.25	2.25	43	5.2
Glidden	a3.09	b3.10	...	c3.58	1933	2.00	2.00	35	5.7
Johns-Manville	2.62	3.67	2.57	2.93	1935	2.25	2.25	47	4.8
Kroger	4.04	3.88	2.63	3.56	1902	2.00	2.00	49	4.1
National Steel	4.13	6.54	4.48	4.80	1930	4.00	4.00	76	6.3
Sinclair Oil	6.05	5.68	4.24	4.51	1934	3.00	3.00	62	4.8
So. Natural Gas	1.89	2.37	1.60	1.96	1942	1.85	2.00	38	5.3
Sterling Drug	3.32	3.98	3.10	3.30	1902	2.70	e3.00	53	5.6

a—Year ended October 31. b—Ten months ended August 31. c—Year ended August 31.
 s—Plus stock. e—Includes 20 cents extra.

With the possible exception of American Can, which had lower earnings for the first nine months of 1956, due to narrowed profit margins, all will show better results for last year than they did in 1955.

Three of them—Federal Paper Board, Southern Natural Gas and Sterling Drug—recently raised their dividends.

The list is shown above, with the columns on price and yield being as of the closing days of 1956.

ONE BROKER'S SELECTIONS

Brokers are forever called upon by their clients to pick the magic investments, something that won't go down, will produce a good capital gain, and a good yield. They do an honest job of guessing.

Much depends upon what the in-

vestor wants, and even more upon unknown factors which are not apparent now.

With the foregoing in mind, the list on the opposite page was prepared by the firm of H. Hentz & Co., as of the beginning of the year.

TOBACCO STOCKS AND THE SMOKING-HEALTH CONTROVERSY

The smoking-and-health controversy is still with us, and doubtless will be, for some time to come. It has caused liquidation of tobacco shares and doubtless was responsible for an increasing swing from the regular cigarettes into filter brands. It hasn't caused an overall reduction in smoking.

The most authoritative survey of the industry is compiled once a year by

Harry M. Wootten, consultant on the industry, for "Printers' Ink," a magazine devoted to advertising, selling and marketing. He believes the controversy may be collapsing, for lack of nourishment, and adds:

"Scientists say it is next to impossible to 'prove' a negative position, but no positive proof of the anti-cigarette theory has been produced, and more and

ONE BROKER'S SELECTIONS

For Income

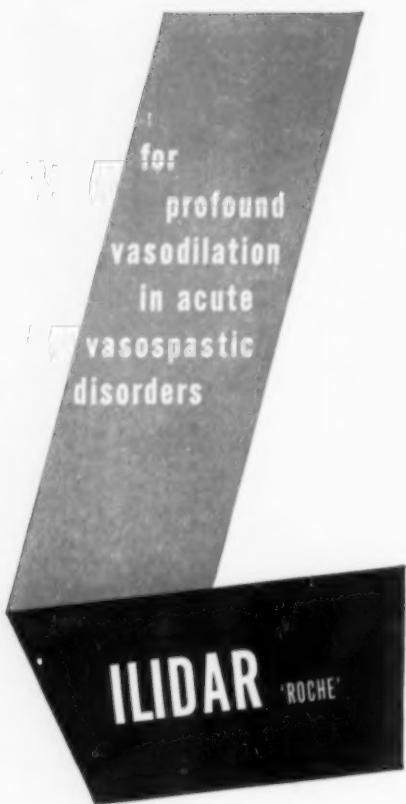
	RECENT PRICE	1956 INDIC. DIV.	% YIELD	EST. '56 PER SH. EARN.	PRICE RANGE '54-'56
American Tel. & Tel.	17 1/2	\$9.00	5.2	\$13.00	187-156
Columbia Gas System	17	1.00	5.9	1.60	17- 13
Diamond Match	33	1.80	5.4	2.85	45- 20
Great Northern	44 1/2	3.00	6.7	5.00	47- 23
May Department Stores	38 1/2	2.20	5.7	3.60	48- 28
National Biscuit Co.	35	2.00	5.7	2.75	45- 35
National Dairy Products	37	1.80	4.9	3.00	45- 31
National Tea Co.	36	2.00	5.5	3.35	53- 28
Niagara Mohawk Power	30	1.80	6.0	2.20	36- 27
Public Service Elec. & Gas	31	1.80	5.8	2.15	35- 26
Standard Brands Inc.	38	2.25	5.9	3.50	44- 28
Sterling Drug	53	3.00+	5.7	4.40	63- 36
United Fruit	45	3.00	6.7	3.80	60- 43

For Appreciation (Better Quality)

American Cyanamid Co.	78	3.00	3.8	4.40	79- 43
American Metal	27	1.75+	6.5	3.00	36- 9
American Smelting & Ref.	57	3.00+	5.3	6.75	59- 28
Cincinnati Milling	49 1/2	1.60	3.2	5.30	55- 24
E. I. DuPont	191	6.50	3.4	8.15	250-104
Eastman Kodak	87 1/2	2.65+	3.0	4.90	101- 44
General Motors	43	2.00	4.6	3.10	54- 20
Illinois Central RR	61 1/2	4.00	6.5	8.50	73- 37
Johns-Manville Corp.	48 1/2	2.25	4.6	3.90	59- 31
Kennecott Copper	126	9.25	7.3	13.50	148- 66
Kimberly-Clark Corp.	42	1.80	4.3	3.10	58- 37
Louisville & Nashville RR	87	5.00	5.7	11.25	109- 78
Pfizer (Chas.) & Co.	48	1.75	3.6	3.50	51- 30
Royal Dutch Petroleum	43 1/2	1.12	2.6	4.75	46- 22
Standard Oil Co. (Indiana)	61	1.40+	2.3	4.85	65- 34
Union Oil of California	59 1/2	2.40	4.0	4.20	66- 35
Union Pacific RR	30 1/2	1.60	5.2	3.15	41- 28
U. S. Steel	72	2.60	3.6	6.25	74- 20

For Appreciation (Medium Grade to Speculative)

Air Reduction	50	2.00	4.0	4.25	52- 23
Allegheny Ludlum Steel	61 1/2	2.00	3.2	4.15	64- 14
American Airlines	23 1/2	1.00	4.2	3.00	29- 21
American Broad.-Paramount	24	1.30	5.4	2.10	33- 15
American Mach. & Fdry.	37	1.20+	3.2	3.00	41- 21
Anaconda Co.	71 1/2	5.00	7.0	11.00	88- 30
Celotex Corp.	36	2.40	6.7	6.50	48- 16
Chrysler Corp.	69 1/2	3.00	4.3	2.50	101- 56
Cooper-Bessemer	55 1/2	2.00+	3.6	7.00	58- 16
Deere & Co.	30	1.50	5.0	2.25	40- 25
Georgia-Pacific Corp.	27 1/2	1.00+	3.6	2.75	41- 5
Honolulu Oil	68 1/2	1.80	2.6	3.85	74- 28
International Tel. & Tel.	30 1/2	1.80	5.9	3.70	37- 14
Kelsey-Hayes Wheel	44	2.40	5.4	5.28	48- 27
Lockheed Aircraft	57	2.40+	4.2	5.50	64- 40
National Supply	94	3.37 1/2 +	3.6	10.00	97- 24
Pennsylvania RR	22	1.65	7.5	3.10	30- 16
Pepsi-Cola	19	1.00	5.3	1.55	26- 13
Radio Corp. of America	35	1.50	4.3	2.60	55- 23
Republic Steel	58 1/2	3.00	5.1	5.60	60- 24
Royal McBee Corp.	31	1.40	4.5	3.47	36- 15
Sperry Rand	22 1/2	0.80	3.5	1.80	30- 21
United Aircraft	89	3.00	3.4	7.40	96- 30
U. S. Rubber	48 1/2	2.00+	4.1	5.20	61- 29
Warner-Lambert	45	2.00+	4.4	4.30	49- 17
Western Union Telegraph	19 1/2	1.00	5.1	2.10	29- 9
Westinghouse Air Brake	29	1.20	4.1	3.00	36- 23
White Motor	51	3.00	5.9	6.95	51- 24



increases peripheral circulation and reduces vasospasm by (1) adrenergic blockade, and (2) direct vasodilation.

Provides relief from aching, numbness, tingling, and blanching of the extremities.

Exceptionally well tolerated.

ILIDAR® BRAND OF AZAPETINE

HOFFMANN-LA ROCHE INC
NUTLEY, N. J.

more of the statistics, on which the original theory was based, have been challenged as defective."

Filter brands improved their sales total in 1956 over 1955 by 59.6 per cent. They captured 30 per cent of the American market.

The top 3 companies are American Tobacco (with 30.1% of the market), R. J. Reynolds (26.5% of the market) and Liggett & Myers (16% of the market). Total domestic output was up 4.8% over 1955.

New product excitement is quickening the pace, according to the report, while filter brands are more than offsetting cancer scares. But old-timers are losing ground—Camel, Lucky Strike, Chesterfield, Philip Morris, Old Gold all are down. Winston is now ahead of regular-size Chesterfield while Salem (mentholated filter tip) is moving up fast. American's Pall Mall has 63.1% of the king-size market. Reynolds' Winston has 31.9% of the filter-tip market. The newest comer, American's Hit Parade, is showing strong consumer acceptance.

CONGRESSIONAL TUSSLE LOOMS

Economic considerations will probably never be free of politics, nor will politics ever be free from considerations for the economy. That is our system.

We may regret that there will be a full-scale review of the powers of the Federal Reserve over its control of money and credit, but we know it is coming. The Federal Reserve is responsible only to Congress. Members of its board are appointed by the president, for specific terms, and throughout each one's respective term he is in-

dependent. Consequently the Federal Reserve Board is known as an independent agency of the government.

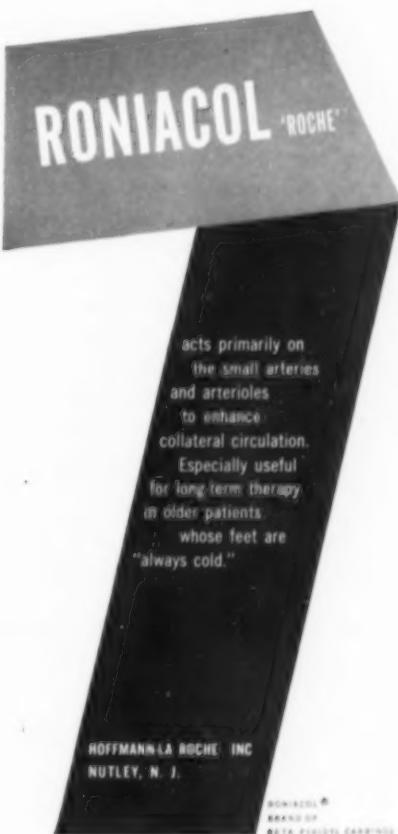
Even the President cannot remove a member, without cause, although he is fully empowered to remove the Secretary of State, the Secretary of the Treasury, or any member of his Cabinet, plus many others.

The Federal Reserve Board is in a different category. Consequently it sets its own course, and this has at times conflicted with plans of the Treasury Department. More frequently there are members of Congress, importuned by constituents who have been turned down by their local bank on a loan, who want a thorough airing of our credit management.

We are going to get one, so be prepared. Proponents of easy money want Congress to strip the Federal Reserve of certain of its discretionary powers. Not all of these critics are individual borrowers who have been disappointed. Some are on school boards, sewer authorities, or in other municipal posts, and they feel that improvements needed in their localities have been made unduly expensive because money is tight. Numerous proposed offerings of municipal securities have been withdrawn in the last few weeks because of the price.

Representative Wright Patman of Texas and Senator Joseph C. O'Mahoney of Wyoming will lead the expected move to curb the independence of the Federal Reserve. They have repeatedly charged that the policies of the monetary authorities have seriously restricted municipal borrowing for public works such as school building. The opposition group wishes to make the Federal Reserve more subject to control by Congress.

for
prolonged
vasodilation
in chronic
circulatory
disorders



The Guaranty Trust Company of New York recalled recently a statement by Representative Patman, at a hearing on the policies of the Fed. It quotes him:

"The Federal Reserve Board seceded from the Administration in 1951, but it can't secede from Congress. Congress will take action in the foreseeable future if the Federal Reserve doesn't change present trends that are proving disastrous to the economy."

In 1951 the Board was freed from its obligation to support Treasury securities at "arbitrary" prices, which enabled it to execute "the sort of flexible

monetary policy which it is now pursuing," the bank explained.

"Patman apparently no longer regards Treasury dominance of the Federal Reserve as practical . . . (but) he has not abandoned hope that congress may assume comparable control."

"So far there has been no indication that Patman is likely to be able to induce Congress to accept his views," the bank continued. "If the business situation should cause the continuance of tight money well into the future, however, the base of his support could conceivably widen."

OUTLOOK FOR BONDS

The time will arrive eventually when bonds will be a good buy. There are many keen students of Wall Street's ways who feel it has already arrived, but the action of the bond market says they haven't too many adherents, as of now.

It all depends on the course of money rates. If money is to become even tighter, then bonds are still too high. If they are to stay at about the present level, then there should be careful buying of selected bonds. If there is to be a major down turn in the course of interest rates, the bonds are cheap.

The market for senior credit obligations has had a bear market all its own,

while stocks have been backing and filling. A year ago it didn't seem possible that the United States Treasury, in order to get money for the short space of 90 days, would pay at an annual rate of well above 3 per cent.

The table below, prepared by Emanuel, Deetjen & Co., shows what has happened in bonds and in other fixed income bearing securities.

Tax exempt securities appear to be attracting more attention from investors in the higher income brackets. These issues have dropped to a level where they offer a far better yield than can be obtained on top grade stocks.

A Look at Bond's

90-day Treasury Bills
U. S. Treasury Bonds 2½s of 1967/72
Pennsylvania Turnpike 3.10s of 1993
Southern Bell Telephone 3½s of 1995
Southern Bell Telephone 4s of 1986
New York Central 4s of 1998
General Motors 3¾% pfd. stock
* Yield basis.

YEAR-END	DECEMBER 27,
1955	1956
2.49%*	3.18%*
95	88½
104½ bid	83½ bid
100½ bid	87 bid
—	99½ bid
74¾	63½
100	85½

How to pick tomorrow's blue chips...

Management must be excellent and progressive. The stock does not have to be listed on a major exchange. But it must have growth potential. It should be in a good financial position, something that is not always reflected in the current stock price.

When a good aggressive company has these qualifications there's every opportunity for its stock becoming very valuable.

This is how to pick a potential blue chip. But now we must know where. This is a question your broker can help answer. He can furnish you with detailed information on any stock. He's constantly on the alert for progressive, strong companies—and very often he finds them.

We have information on what we consider especially attractive buys—companies that aren't giants today, but may be in the future.

*Just fill in the coupon below for information
that could represent profit potential for you.*

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New York 5, N.Y.

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Address.....

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Telephone..... MT-2

There is always the possibility of further pressure on the bond list, but in view of the current attractiveness of a representative list of tax exempt municipals and turnpike bonds, one can question whether a further increase in interest rates would not find fully taxable securities, such as stocks and government bonds, even more vulnerable than tax exempts.

Bond yields are now at their highest in more than twenty years. In the last ten years senior securities have had one of the most drastic declines in history, while junior equities have enjoyed one of their sharpest advances. Helping the

latter has been the argument, and the very sound argument, that equities provide a better hedge against inflation than do fixed interest bearing securities.

But there comes a time when the former may sell at too much of a discount. We may be in such a period now, or very near to it. A number of firms are advising customers to keep part of their funds in stocks, for eventual appreciation, but a good portion in bonds, for income. No one can say we are at the bottom of the bond market decline, because when prices fall no one knows how low is low. But selected issues could be picked upon a scale.

STOCK STUDIES AVAILABLE

Financial houses issue a large number of analytical reports on industries and individual companies for the guidance of investors. A few recent reports are listed below, with the name of the issuing firm and its New York address.

SUBJECT	FIRM	N. Y. ADDRESS
Guaranty Trust Co. of N. Y.	A. M. Kidder & Co.	1 Wall St.
Amerada Petroleum Corp.	Evans & Co.	300 Park Ave.
United States Rubber Co.	Stanley Heller Co.	30 Pine St.
57 Stocks for Fifty-Seven	Stanley Heller Co.	30 Pine St.
Air Reduction Co.	Jas. H. Olyphant Co.	61 Broadway
Westinghouse Electric Corp.	Eastman Dillon, Union Securities & Co.	15 Broad St.
Railroad Review	L. F. Rothschild & Co.	120 Broadway
Kelsey-Hayes Co.	Bache & Co.	36 Wall St.
Four Major copper companies	Estabrook & Co.	40 Wall St.
*Motor Carrier Industry	Shields & Co.	44 Wall St.
{The paper industry	Smith, Barney & Co.	44 Wall St.
Bahamas Helicopters, Ltd.	Blair & Co.	120 Broadway
Baltimore & Ohio	Reynolds & Co.	120 Broadway
Burlington Industries	Reynolds & Co.	52 Wall St.
Lundberg Explorations, Ltd.	L. H. Rothschild & Co.	11 Wall St.
Best Foods, Inc.	Thomson & McKinnon	11 Wall St.
International Shoe Co.	Thomson & McKinnon	50 Broadway
Wallace & Tiernan	Dreyfus & Co.	60 Broadway
Brightening automotive outlook	A. G. Becker & Co.	115 Broadway
United States Lines	J. R. Williston & Co.	39 Broadway
Interlake Iron	Osborne & Thurlow	120 Broadway
Union Oil of Cal.	Harris, Upham & Co.	52 Wall St.
Stibnite Greene Corp.	Van Alstyne, Noel & Co.	Allentown, Pa.
Pan American Sulphur Co.	C. V. Converse & Co.	25 Broad St.
Selzlerling Rubber	Kamen & Co.	
* Price \$1. { Price \$3.50.		



Hypertensive Objective: **ACTIVE LIVING**

. . . from incapacitating hypertension to a life of usefulness.

Case History:¹ A.B., 42-year-old hospitalized patient with severe hypertension and early heart failure. Blood pressure prior to treatment was 240/160 mm. Hg. ANSOLYSEN was administered orally t.i.d. The dose was adjusted to the patient's requirements. Blood pressure was reduced to, and stabilized at, an average level of 150/105 mm. Hg. There was marked symptomatic improvement, and the patient was able to return to work.

1. Case history on file in Medical Department of Wyeth Laboratories.



ANSOLYSEN[®]

TARTRATE

Pentolinium Tartrate

Lowers Blood Pressure

Wyeth
Philadelphia 1, Pa.

IF WAR COMES

Security and market experts are not military experts. They do know however, that when there is a war, or a serious threat of one, the tendency has been for values to sink rapidly but then recover.

The explanation apparently is that selling is emotional. The news is disturbing and for a while no one dares attempt to plot the immediate future. Also there is no knowledge of just how taxes will fall on individual companies. After tax rates have been established, then it is possible to proceed with a more intelligent attempt to protect one's self from the ravages of inflation.

The firm of Harris, Upham & Co. recently prepared a list of the major war crises since 1898. It shows that 72 to 100 per cent of the initial losses were recovered after the emotional selling was out of the way, and usually the recovery came quickly. Its list follows:

EVENT	% LOSS	DAYS OF DECLINE	LOSSES RECOVERED
Battleship Maine Sunk (1898)	16%	32	100% in 37 days
Lusitania Sunk (1915)	11	32	100% in 16 days
Austrian Crisis (1938)	27½	31	100% in 96 days
Munich Crisis (1938)	14	53	100% in 11 days
Czechoslovakian Crisis (1939)	22	24	100% in 130 days
Poland Invaded (1939)	7	17	100% in 9 days
Fall of France (1940)	25	26	72% in 127 days
Pearl Harbor (1941)	9	17	75% in 9 days
Berlin Crisis (1948)	9	72	82% in 18 days
Korean Crisis (1950)	12½	13	100% in 43 days

MORTGAGE LENDING STILL HIGH

The matter of the cost of borrowing money is today's number one subject and it promises to remain so far some time to come. One of the fields of borrowing aimed at by the Federal Reserve is borrowing, on a shoe string, to build new houses.

The Federal Reserve feels that if we borrow too much on the future we are not doing the economy any good. We are living it up, before we have put down a sufficient stake of our own. Consequently the mortgage market is tight.

We cannot conclude from this that there has been any falling off of top grade loans on real estate. Despite tightness of money, such loans have increased.

The authority for this statement is the Institute of Life Insurance. The Life companies are conservative. They don't make loans on a prayer and a promise. But their experience serves as a guide.

They report that their lending on first mortgages reached an estimated \$6,800,000,000 last year, up some \$200,000,000 from the previous year's total.

VA mortgages accounted for \$1.7 billion of the 1956 new mortgages, about \$90 million less than the previous year, but \$370 million more than in 1954, the report said.

FHA mortgages accounted for acquisitions of \$950 million in 1956, some

—Concluded on page 98a

MEDICAL TIMES

Diamox

ACETAZOLAMIDE LEDERLE

non-mercurial diuretic



LEDERLE LABORATORIES DIVISION
AMERICAN CYANAMID COMPANY
PEARL RIVER, NEW YORK

A single daily tablet of DIAMOX controls the edema frequently associated with premenstrual tension. Tangible relief of such symptoms as pelvic engorgement, tightness of skin and head-heaviness produces marked improvement of physical and emotional well-being in these patients.

DIAMOX — a versatile, well-tolerated drug — is highly effective not only in the mobilization of edema fluid but in the prevention of fluid accumulation as well. A single oral dose is active for 6 to 12 hours, offering convenient daytime diuresis and nighttime rest. Excretion by the kidney is usually complete within 12 hours with no cumulative effects.

For premenstrual tension, prescribe a simple regimen of DIAMOX: 1 tablet daily, beginning 5 to 10 days before menstruation, or at the onset of symptoms.

Supplied: Scored tablets of 250 mg. (Also in ampuls of 500 mg. for parenteral use.)

•Reg. U. S. Pat. Off.

tangible
relief
in
premenstrual
tension



NEW!

More Effective...

Medihaler-Phen™

Each cc. provides phenylephrine HCl 3.6 mg., neomycin sulfate 1.5 mg. (equivalent to 1 mg. of neomycin base), and hydrocortisone 0.6 mg., in 10 cc. leakproof, spillproof vials with metered-dose valve and sterilizable unbreakable plastic nasal adapter.

Unvarying Measured-Dose Nasal Medication Reaching the Entire Paranasal Mucosa

VASOCONSTRICATIVE Counteracts hyperemia of nasal and paranasal mucosa

DECONGESTIVE Diminishes edema and hypersecretion... opens sinus ostia

ANTI-INFLAMMATORY Neutralizes the exudative phase of tissue reaction

ANTIBIOTIC Attacks bacterial invasion directly

Medihaler-Phen™ ...an ethical prescription item...
makes squeeze bottle and dropper medications obsolete

Medihaler-Phen is self-powered, measured-dose vaporized medication providing effective relief for congested nasal and paranasal mucosa.

Its active ingredients—phenylephrine HCl, hydrocortisone, and neomycin sulfate—are in wide clinical use. In Medihaler-Phen, for the first time, they are blended with an inert, nontoxic aerosol propellant, and are made more effective with a penetrating surfactant. An accurately-meas-

ured nebular cloud is gently ejected, regardless of how the Medihaler-Phen valve is compressed—not part spray, part stream as with spray bottles—not an irritating, powerful jet—no drops of liquid which tend to run out of the nasal passages.

Because of the extremely small, uniform particle size of Medihaler-Phen nebulization, less medication is required to decongest the mucosa and open the ostia of paranasal sinuses.

Longer Lasting Relief in Nasal Congestion

RHINITIS
SINUSITIS
PHARYNGITIS

due to upper respiratory infections and allergies

tissue compatible
greater effectiveness
longer lasting
no rebound
vest pocket size

Medihaler-Phen™ is Safe

...FOR CHILDREN, TOO

Repeated use does not result in tachyphylaxis. . . . Does not possess the cardiac and nervous system-stimulating actions characteristic of other topical vasoconstrictors. . . . Even gross overdosage does not lead to drowsiness or deep somnolence in children. . . . Concentration of hydrocortisone effective locally, but produces no systemic effect. . . . Penetrates "mucous blanket" of nasal mucosa without irritation.

OTHER USES Medihaler-Phen is also valuable in the symptomatic treatment of "postnasal drip" due to excessive smoking, air pollution, steam heating, etc.

ANOTHER **Riker** FIRST



INVESTING

—Concluded from page 94a

varicose and indolent ulcers

in this skin disorder
and many more

NEW Vioform® Hydrocortisone Cream

antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform - Hydrocortisone Cream, containing iodochlorhydroxyquin U.S.P. 3% and hydrocortisone (free alcohol) U.S.P. 1% in a water-washable base; tubes of 5 and 20 Gm.

VIOFORM® (iodochlorhydroxyquin U.S.P. CIBA)

C I B A Summit, N. J. 07901

\$91 million less than the '55 total of \$1 billion, but \$280 million more than '54.

Conventional mortgages, which comprise the greater part of the life companies' total mortgage acquisitions, totaled \$3.6 billion in 1956, up \$390 million on the year, and \$280 million more than in 1954, the institute said.

The Life companies' holdings of mortgages at year-end are estimated by the Institute at \$33 billion which would be a rise of \$3.7 billion from the start of the year and \$7.1 billion more than two years ago, it stated.

According to the study, if demand for construction continues, the volume of mortgages financed by insurance companies during 1957 will be around the \$7 billion mark.



"All I did was say 'Good Morning'."

In urinary tract disturbances Pyridium® achieves the first objective

(Brand of Phenylazo-diamino-pyridine HCl)



relief of pain, urgency, frequency, burning in a matter of minutes

With PYRIDIUM, irritated urinary tissues are bathed in a continuous flow of analgesic fluid, keeping the patient comfortable during diagnostic procedures and while maintaining therapy. The benefits of therapy with PYRIDIUM include • gratifying relief in a matter of minutes—long before specific therapy, if required, can take effect • elimination of urinary retention due to pain spasm • local analgesia only • complementary to any antibacterial of the physician's choice — allows separate control of analgesic and antibacterial therapy • simple, convenient dosage — just 2 tablets before meals for adults.

Pyridium is the registered trade-mark of Fisons Chemical Co., Inc. for its brand of phenylazo-diamino-pyridine HCl. Merck Sharp & Dohme, Division of Merck & Co., Inc., sole distributor in the United States.

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LETTERS TO THE EDITOR

—Concluded from page 54a

similarly, we have had in Manitoba, but no effort has been made by our Health Departments to study the same.

The past season has brought to me several cases, demonstrating the toxic factor in virus disease. One, forty-eight hours after Salk Vaccine injection, developed Polio. A similar development, I am sure would have followed any injection. One, in August, within twenty-four hours of tonsillectomy, developed Polio. (No—I was not guilty of Surgery.) Forty-eight hours after this child's mother developed Polio. A June case of Polio Encephalitis returned to work and normalcy on Oct. 1st. A lady of 56 developed an A.P.C. virus infection and toxic psychosis therefrom. She gleefully went about her home for a week after the disease cleared—dodging little men. This is my third case of post viral toxic psychosis. The former two, I reported in "Iodine—A Virucide" MEDICAL TIMES, Oct. 1955.

It appears to me that the principle on which Sabine immunization is based, is indeed a recognition that the human's immune reactions differ greatly from those of the experimental animal.

Our finding that Iodine, a trace element in the C.S.F. and the cell, will control such virus diseases of the C.N.S. as Polio, Encephalitis and Shingles, opens a wide field of research for the Generalist to observe.

Again, permit me to express my appreciation of your interest in this intriguing study.

J. F. EDWARD, M.D.
Winnipeg, Canada



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comprehensive physiologic supplement



each Kapseal contains:

VITAMINS

Vitamin A	1,667 Units (0.5 mg.)
Vitamin B ₁ , mononitrate	0.67 mg.
Ascorbic acid	33.3 mg.
Nicotinamide	16.7 mg.
Vitamin B ₆	0.67 mg.
Vitamin B ₁₂	0.5 mg.
Vitamin B ₁₂ with intrinsic factor concentrate	0.033 USP Unit (oral)
Folic acid	0.1 mg.
Choline bitartrate	6.67 mg.
Pantothenic acid (as the sodium salt)	8 mg.

MINERALS

Ferrous sulfate (oxalicated)	16.7 mg.
Iodine (as potassium iodide)	0.05 mg.
Calcium carbonate	66.7 mg.

DIGESTIVE ENZYMES

Taka-Diastase®	20 mg.
Pancreatin	133.3 mg.

PROTEIN IMPROVEMENT FACTORS

L-Lysine monohydrochloride	66.7 mg.
di-Methionine	16.7 mg.

GONADAL HORMONES

Methyl testosterone	1.67 mg.
Theelin	0.167 mg.

DOSAGE:

One Kapseal three times daily before meals. Female patients should follow each 21-day course with a 7-day rest interval.

PACKAGING:

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aging complex
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promotes vigor
and vitality

ELDEC* later
Kapsseals®

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favorably alters concomitants of aging

vitamins and minerals

to help maintain cellular function

enzymes to aid digestion

amino acids to help maintain nitrogen balance

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Division, Chas. Pfizer & Co., Inc., Brooklyn 6, New York



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in rheumatoid arthritis

clinical evidence^{1,2,3} indicates that to augment the therapeutic advantages of the "predni-steroids" antacids should be routinely co-administered to minimize gastric distress

**ROUTINE
CO-ADMINISTRATION
MEANS**

'Co-Hydeltra'

(Prednisone Buffered)



Multiple
Compressed
Tablets



2.5 mg. or 5 mg.
prednisone or
prednisolone with
56 mg. magnesium
trisilicate and
300 mg. aluminum
hydroxide gel.

'Co-Deltra'

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All the benefits of the
"predni-steroids" plus
positive antacid action
to minimize gastric
distress.

References: 1. Roland, E. W.,
J.A.M.A. 169:513 (February 25) 1956. 2. Margolis,
H. M. et al., *J.A.M.A.* 158:454 (June 11) 1955.
3. Bollet, A. J. et al.,
J.A.M.A. 158:459 (June
11) 1955.

'CO-DELTRA' and 'CO-HYDELTRA' are trademarks of MERCK & CO., INC.

MODERN THERAPEUTICS

Therapy With Mandelamine in Urinary Tract Infections

A series of 100 unselected cases of urinary tract infections which had not responded to antibiotic therapy were given Mandelamine (methenamine mandelate) in a dose of 1 Gm. 3 or 4 times a day. Among the 29 acute cases, favorable results were obtained in 81 per cent while, among the chronic cases, 61 per cent derived beneficial results. According to Bourque and Joyal in

Canad. Med. Assoc. J. [75:634(1956)], these results were good considering the fact that the infections had not responded to antibiotic therapy. Surgical procedures were required in 82 per cent of the cases.

The best results were obtained in those cases where the urine was acid. Better results were obtained in those infections caused by staphylococci or proteus organisms than in those caused by *Escherichia coli*. Better results were also obtained where one organism was found as the causative agent rather than in mixed infections. In some cases the authors found that the sensitive bacteria disappeared from the urine and then reappeared later. Or, an entirely different organism appeared after the sensitive organism disappeared. These findings indicated the importance of prolonged therapy in chronic infections in order to completely eliminate the infecting agents.

Mandelamine was also found to be relatively non-toxic. Only 4 patients complained of burning on micturition and two of gastric distress.

The Treatment of Chronic Asthma With Hydrocortisone by Inhalation

In a blind test of the effectiveness of hydrocortisone by aerosolization, 9 patients with chronic asthma were treated with hydrocortisone hemisuccinate and 9 with a placebo, lactose. The medication and placebo were given in a dose of about 5 mg. three times a day by inhalation. The diluent used consisted of sterile water, chlorobutanol and a Triton. Treatment was continued for a total of ten weeks.

Brockbank, Brebner, and Pengelly reported in *The Lancet* [271:807(1956)]

—Continued on page 109a

contact
dermatitis
in this skin disorder
and many more

NEW **Vioform®**
Hydrocortisone
Cream

antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform-Hydrocortisone Cream, containing iodochlorhydroxyquin U.S.P. 3% and hydrocortisone (free alcohol) U.S.P. 1% in a water-washable base; tubes of 5 and 20 Gm.

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10 nutritionally significant vitamins • delicious fruit flavor • no unpleasant aftertaste • assured stability including B₁₂ • full dosage assured—can be dropped directly into baby's mouth • no refrigeration required • in 15 cc., 30 cc. and economical 50 cc. bottles with calibrated, unbreakable plastic 'Safti-Dropper'

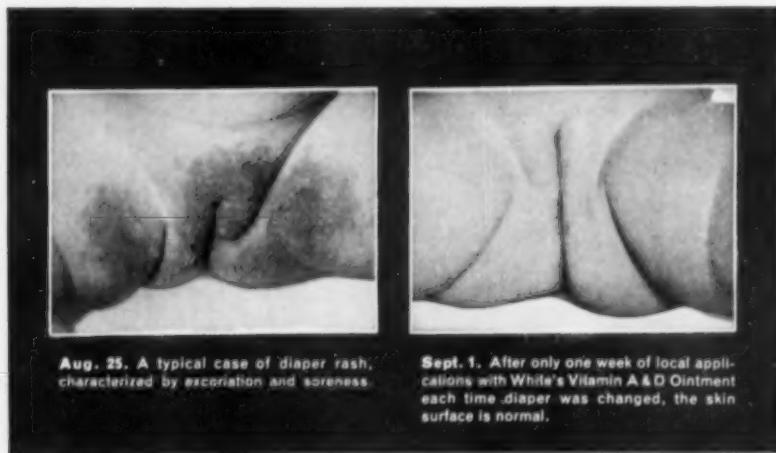
it's easy to specify the DECA vitamin family
in the vital first decade

DECA-VI-SOL® • DECA-MULCIN® • DECA-VI-CAPS®

one name to remember—Deca— one basic formulation
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it's becoming routine therapy

particularly in

prevention and treatment of diaper rash

and in many other common skin conditions: burns, cuts, sunburn, chafing, prickly heat, chapping, cracked nipples

White's Vitamin A & D Ointment

it's healing...soothing...protective.

Provides A & D vitamins in the same ratio as found in cod liver oil.

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ECONOMICAL 4 OZ. SIZE
HANDY FOR EMERGENCIES
AND ROUTINE SKIN CARE

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help for the alcoholic

Oral Serpasil helps free the alcoholic from his self-destructive compulsion. As a part of long-term therapy, oral Serpasil helps the alcoholic "stay on the wagon" by relieving drink-inducing tension, making him more amenable to your counseling. In acute alcoholism, delirium tremens can generally be controlled within 24 hours with parenteral Serpasil... without the addicting or soporific dangers of drugs such as paraldehyde.

Serpasil®

(reserpine CIBA)

SUPPLIED: TABLETS, 4 mg. (scored), 2 mg. (scored), 1 mg. (scored), 0.25 mg. (scored) and 0.1 mg. ELIXIR: 1 mg. and 0.2 mg. Serpasil per 4-ml. teaspoon. PARENTERAL SOLUTION: Ampuls, 2 ml., 2.5 mg. Serpasil per ml. Multiple-dose Vials, 10 ml., 2.5 mg. Serpasil per ml.

C I B A SUMMIT, N. J.

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- **full color calibration**—standard blue-to-orange color scale does not omit the critical readings: $\frac{3}{4}\%$ (++) ; 1% (+++).
- **easy-to-read colors**—sharp distinctions give reliable readings, dependable reports.
- **uniformly reliable**—results you can trust, reports you can rely on.



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22457

MODERN THERAPEUTICS

—Continued from page 104a

that only 1 of the nine patients treated with the hydrocortisone inhalations showed marked improvement while 3 of the 9 receiving the placebo were much improved. The authors concluded that hydrocortisone by inhalation was ineffective in the treatment of chronic asthma.

Rapid Changes in Sensitivity to Antibiotics in Staphylococcal Septicemia

A patient with staphylococcal septicemia was found to show rapid changes in the sensitivity of the infecting organ-

ism, *Staphylococcus aureus*, to antibiotics. By means of blood cultures the sensitivity of the organism was carefully followed.

In *The Lancet* [271:818(1956)], Fullerton and Smith reported that the organism was initially resistant to penicillin but sensitive to streptomycin and erythromycin. After five days of therapy with a 2 Gm. of streptomycin and 4 to 8 million units of penicillin a day, the organism was fully resistant to streptomycin. After four more days and 6900 mg. of erythromycin, the infecting organism was found to be resistant to erythromycin. At this point novobiocin was given in a dose of 2 Gm daily. Twenty-four hours later the

—Continued on following page

EXCELLENT RESULTS IN IMPOTENCE...
as well as in the male climacteric and male senility . . . are being achieved with GLUKOR*, a fortified chorionic gonadotropin, clinically demonstrated to be safer and more effective than androgens. In a recent study¹, coitus was made possible in 85% of 67 cases of impotency with 1 cc. GLUKOR intramuscularly, and maintained once weekly or once monthly.

*Trade Mark, Patent Pending 1. Gould, W. L.: Impotence, M. Times 84:302 (March) 1956.

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Please send me:-

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MODERN THERAPEUTICS

—Continued from preceding page

blood culture was sterile. However the patient died on the thirteenth day.

Post mortem cultures from abscesses of the arm and several internal organs were found to be resistant to penicillin only. The authors wondered whether or not the antibiotics given had reached the organisms in the abscesses.

Promethazine as Adjunct to Preoperative Medication

Promethazine, having a high antihistaminic and sedative coefficient index, is more widely known as an antihistamine. The authors, W. A. Weiss and J. P. McGee, Jr., in *Annals of Surgery* [144: 361 (1956)], conducted a study at the

Fitzgerald-Mercy Hospital, Darby, Pennsylvania, to determine the value of promethazine for the alleviation of anxiety in the immediate preoperative period. Their interest was primarily in the seda-

—Continued on page 114a

WHO IS THIS DOCTOR?

(from page 51a)

The doctor is FRANK GILL SLAUGHTER. He has written (in addition to the works mentioned) *The Song of Ruth*, *Apalache Gold*, *Storm Haven*, *The Galileans*, *East Side General*, *The Road to Bithynia*, *Fort Everglade*, *The Stubborn Heart*, *Divine Mistress*, *Sangaree*, *The Golden Isle*, *In a Dark Garden*, *A Touch of Glory*, *That None Should Die*.

Give your patient
sustained sedation
with

NEO-SEDAPHEN

Here is a liquid sedative-hypnotic with a prompt, smooth action. Fast-acting pento-barbital; long-acting phenobarbital and three bromides are combined in NEO-SEDAPHEN for surprising synergistic effect. Prescribe NEO-SEDAPHEN—in insomnia, anxiety states, epilepsy, chorea, gastric and cardiac neuroses—for well tolerated, effective sedation. This palatable green liquid contains no alcohol or sugar.

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in bronchial asthma

Sterane®

brand of prednisolone

whenever corticosteroids
are indicated

provides restoration of breathing capacity — Relief of symptoms [bronchospasm, cough, wheezing, dyspnea] is maintained for long periods with relatively small doses.*

Supplied: White, 5 mg. oral tablets, bottles of 20 and 100. Pink, 1 mg. oral tablets, bottles of 100. Both are deep-scored.

*Schwartz, E.: New York J. Med. 56:570, 1956.

minimal effect on electrolyte balance — "in therapeutically effective doses . . . there is usually no sodium or fluid retention or potassium loss."** Lack of edema and undesirable weight gain permits more effective therapy particularly for those with cardiac complications.

PFIZER LABORATORIES, Brooklyn 6, New York
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AN IMPORTANT CLINICAL CONSIDERATION: *the rising incidence of moniliasis since the introduction of broad spectrum antibiotics*

EXAMPLE: *Candida albicans (monilia) as a cause of vaginitis^{1,2}*



The use of *any* antibiotic may cause the troublesome and potentially serious complication of monilial superinfection by suppressing the bacterial flora of the intestinal tract and allowing monilia to proliferate.

"Even one day of therapy may be sufficient to provoke an unfavorable chain of events and this fact should be kept in mind whenever a patient is to receive an oral antibiotic for even a minimal period of time."³

Mystecin provides well tolerated therapy for the many common respiratory, gastrointestinal and genitourinary infections which respond to tetracycline and at the same time protects the patient against the monilial overgrowth so often associated with the use of broad spectrum antibiotics.

References:

1. Lee, A. R., and Kader, W. S.: Northwest Med. 35:403, 1946. 2. Fife, H. R., and Schatzki, S. L.: J.A.M.A. 162:26, 1959. 3. Merges, W. L., et al.: Paper presented at 4th Annual Symposium on Antibiotics, Washington, D. C., Oct. 17, 1956.

SQUIBB



Squibb Quality — the Priceless Ingredient

MYSTECLIN IS PARTICULARLY INDICATED IN:

- debilitated or elderly patients
- patients requiring high or prolonged antibiotic dosage
- infants—particularly premature
- patients receiving concomitant cortisone or related steroid therapy
- diabetic patients
- patients who have developed a monilial complication on previous broad spectrum therapy
- women—particularly during pregnancy

because the danger of monilial superinfection is greatest in these patients

the only broad spectrum antibiotic preparation with added protection against monilial superinfection

Mysteclin

Stieelin-Mycostatin (Squibb Tetracycline-Nystatin)

AVAILABLE AS:

Mysteclin Capsules: 250 mg. Stieelin (Squibb Tetracycline) Hydrochloride and 250,000 units Mycostatin (Squibb Nystatin), bottles of 16 and 100.

Mysteclin Half Strength Capsules: 125 mg. Stieelin (Squibb Tetracycline) Hydrochloride and 125,000 units Mycostatin (Squibb Nystatin), bottles of 16 and 100.

Mysteclin Suspension: fruit-flavored oil suspension containing the equivalent of 125 mg. Stieelin (Squibb Tetracycline) Hydrochloride and 125,000 units Mycostatin (Squibb Nystatin) per 5 cc., two-ounce bottles.

MODERN THERAPEUTICS

—Continued from page 110a



Fulfils all 3 therapeutic objectives

with 1 single herbal ingredient

In treating coughs and respiratory disorders three objectives are essential: (1) Control of the cough impulse; (2) Stimulating natural respiratory tract fluid; (3) Increasing ciliary activity.

Pertussin fulfills all three of these requirements with one single herbal ingredient... thyme! The pharmacodynamic influence of Pertussin supplies such necessary therapeutic elements... yet it contains no opiates, bromides, coal tar derivatives or depressants. It is an ideal vehicle for other medications. Non-constipating. Equally effective for children and adults.

We will gladly send you a personal supply of Pertussin as well as enough for a few of your favorite patients. For your free supply, simply clip this advertisement and mail it together with your name and address to:

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tive properties of the drug, and in the complications following intramuscular injection. Three hundred patients were considered in three groups. One and one-half hours before operation, Group A received, by intramuscular injection, promethazine, meperidine and chlorpromazine; Group B received promethazine, meperidine and scopolamine, and Group C, all patients ranged from 55 to 90 years, received promethazine, meperidine and atropine, the latter agent being used because it produces no cerebral depression. The degree of sedation obtained was considered good to fair in 96 per cent of patients in Groups A and B, and in 97 per cent in Group C. As to complications, hypotension with a fall in systolic pressure of 30 to 60 mm. Hg which occurred in 28 per cent of patients

—Continued on page 116a

WHAT'S YOUR VERDICT?

—Concluded from page 31a

The Court denied the injunction:

Whether or not the court will grant an injunction in libel cases depends upon all the relevant circumstances. The constitutional protection of free speech and public interest in many issues greatly limit the area in which injunctive relief should be exercised in defamation cases. Aside from the constitutional protection in this case, public interest in the discussion of cancer cures would be sufficient basis for the denial of an injunction." Based on decision of Supreme Judicial Court of Massachusetts

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Means self-powered, uniform, measured-dose inhalation therapy... made possible by specially designed metered-dose valve...



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Means true nebulization. Each measured dose provides 80 per cent of its particles in the optimal size range—0.5 to 4 microns radius—insuring effective penetration of the respiratory tract.



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Means an unbreakable Oral Adapter—no movable parts—no glass to break—no rubber to deteriorate...



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Medication and Adapter fit into neat plastic case, convenient for pocket or purse...



Medihaler

Means greater economy—no costly glass nebulizers to replace, and one or two inhalations usually suffices for prompt relief.



In Asthma

For Rapid Relief of Acute or Continuing Bronchospasm

Medihaler-Epi™

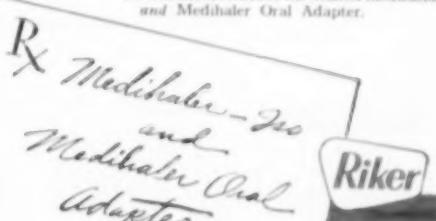
Riker brand of epinephrine 0.5% solution in inert, nontoxic aerosol vehicle. Each ejection delivers 0.125 mg. epinephrine. In 10 cc. vial with metered-dose valve, sufficient for 200 inhalations.

Medihaler-Epi replaces injected epinephrine in emergency situations in which respirations have not ceased. It provides rapid relief in acute food, drug, or pollen reactions (including urticaria, bronchospasm, angioneurotic edema, edema of glottis, etc.). In most instances only one inhalation is necessary.

Medihaler-Iso™

Riker brand of isoproterenol HCl 0.25% solution in inert, nontoxic aerosol vehicle. Each ejection delivers 0.06 mg. isoproterenol. In 10 cc. vial with metered-dose valve, sufficient for 200 inhalations.

Note: First prescription for Medihaler medications should include the desired medication and Medihaler Oral Adapter.



MODERN THERAPEUTICS

—Continued from page 114a

in Group A was considered alarming. In Group B, the fall in blood pressure of 20 to 30 mm. Hg in seven per cent of patients was given an evaluation of 'fair.' In Group C, the fall in blood pressure to 20 mm. Hg systolic in seven per cent of these patients in the older age group was believed to be similar to what might have occurred with any type of sedation. Tachycardia, nasal congestion, nausea and vomiting were observed very infrequently in the entire 300 patients. The authors conclude that promethazine for preoperative use

is a safe and satisfactory sedative. The patient is relieved of apprehension, sleeps lightly, and is mentally alert when aroused, but relaxed. They believe that the combination of promethazine, meperidine and atropine is the pre-operative medication of choice for the aged.

Cardiac Emergencies

In the cardiac emergency, it is essential to evaluate the severity of the attack in order to institute the most effective form of therapy. Cardiac arrhythmias, circulatory arrest, pulmonary edema and myocardial infarction are the most frequently encountered emergencies.

—Continued on page 118a



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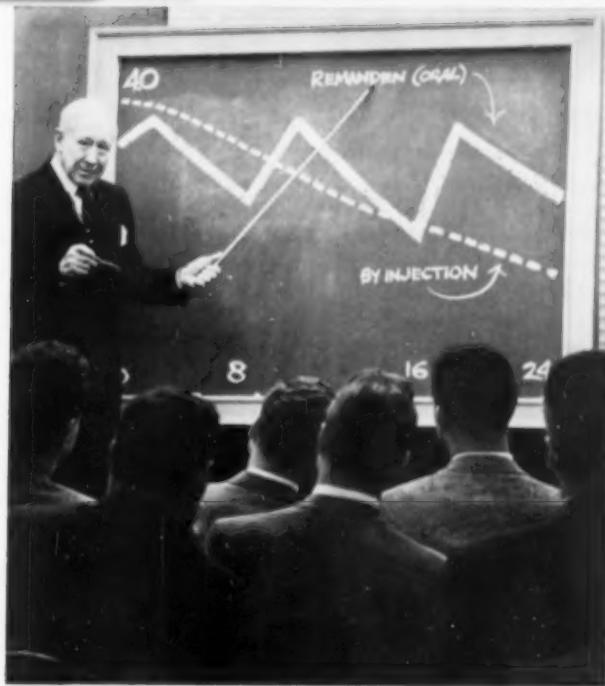
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MODERN THERAPEUTICS

—Continued from page 116a

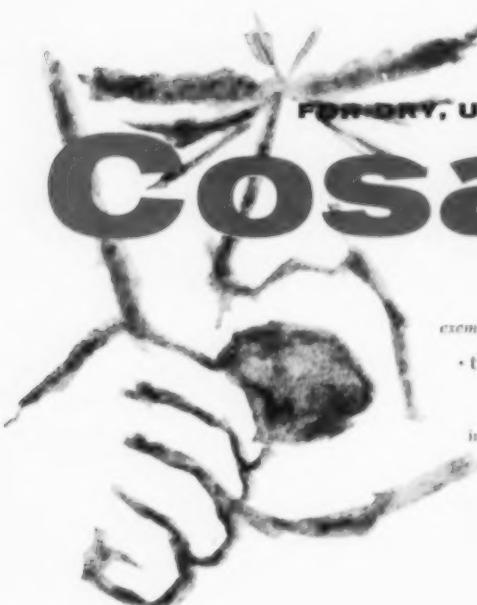
1. *Cardiac arrhythmias.* The routine management is: (a) rapidly acting digitalis preparations, (b) quinidine, (c) Pronestyl, and (d) carotid sinus massage. The use of quinidine versus that of Pronestyl is largely a matter of personal choice. However, the two drugs may be given simultaneously thereby reducing the size of the dosage of both. Extrasystoles may or may not indicate an emergency. An effective dose is quinidine, 0.2 gram four times a day, or Pronestyl, 250 mg. four times daily. Kennamer and Prinzmetal, [Med. clinics

of N.A., Sept. '56], use Pronestyl when the beats are ventricular in origin and quinidine for auricular extrasystoles.

Paroxysmal auricular tachycardia may be an emergency especially in infants and elderly persons. In these cases, carotid sinus massage often produces dramatic cessation. Effective medication is 0.2 gram of pentobarbital with 0.4 gram of quinidine orally. Frequently, dramatic results follow the administration of Cedilanid intravenously. In this group, also, are auricular flutter, auricular fibrillation, and ventricular tachycardia.

2. *Circulatory arrest.* Carotid sinus syncope may be effectively prevented by

—Continued on page 120a



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Cosanyl®

exempt narcotic — contains dihydrocodeinone bitartrate

• the original syrup cocillana compound

• delicious peach-like flavor

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concentrations
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NEO-POLYCIN*

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Effective against the entire range of bacteria most often found in topical lesions...low index of sensitization...non-irritating to tissue...active in presence of blood and pus...diffuses readily into tissue exudates.

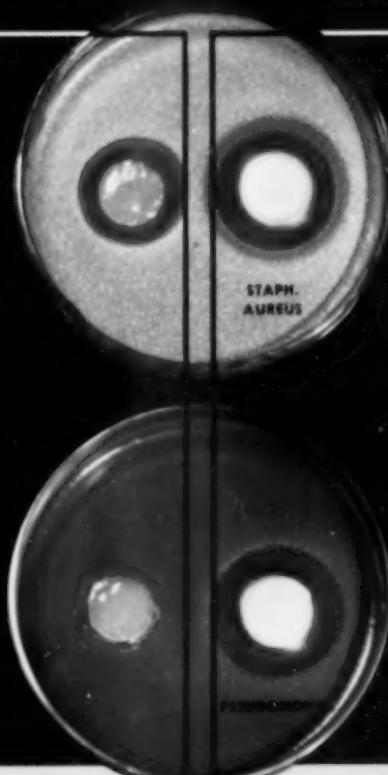
Neo-Polycin Ointment contains 3 mg. of neomycin, 400 units of bacitracin, and 8000 units of polymyxin B sulfate, per Gm. in the unique Fuzene base.

Supplied in 15 Gm. tubes.

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*and its special FUZENE base releases
more neomycin...more bacitracin and more polymyxin
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Here is visible evidence of the limited release of neomycin, bacitracin, and polymyxin from a grease-base ointment.



Here is visible evidence of the greater release of these same antibiotics from Neo-Polycin.

In agar plate tests where Neo-Polycin is compared with a grease-base ointment containing the same antibiotics, comparative zones of inhibition demonstrate the greater release of antibiotics by Neo-Polycin.

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established

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***relieves pain
improves function
resolves inflammation***

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TWO FOLD ACTION

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—1 oz. makes 1 gal. of solution.

Bard-Parker HALIMIDE is the result of years of research to develop a concentrate combining maximum bactericidal potency and trouble-free performance. IT'S ECONOMICAL . . . any way you look at it!

LIST PRICE

4 oz. bottle..... \$2.50

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**B-P INSTRUMENT
CONTAINER No. 300**
Of stainless steel and
PYREX glass with
airtight cover. Ideal
for use with B-P
HALIMIDE.



PARKER, WHITE & HEYL, INC.
Danbury, Connecticut

HALIMIDE and your INSTRUMENTS
... THEY COMPLIMENT EACH OTHER

MODERN THERAPEUTICS

—Continued from page 118a

Banthine. In the Stokes-Adams syndrome, to avoid deleterious therapy, it is very important to determine whether the cause is paroxysmal ventricular fibrillation or ventricular asystole.

Cardiac arrest. The term frequently denotes a stoppage of the heart in patients undergoing surgery. Atropine may be used to prevent the vagovagal reflex. It has been pointed out that treatment should be considered in two steps—re-establishment of the oxygen system, and restoration of the heart beat. In cardiac standstill an electric cardiac pacemaker may be used if available, otherwise massage should be instituted. If ventricular fibrillation sets in, take appropriate measures immediately.

—Continued on page 124a

chronic infectious dermatitis

in this skin disorder
and many more

NEW Vioform® Hydrocortisone Cream

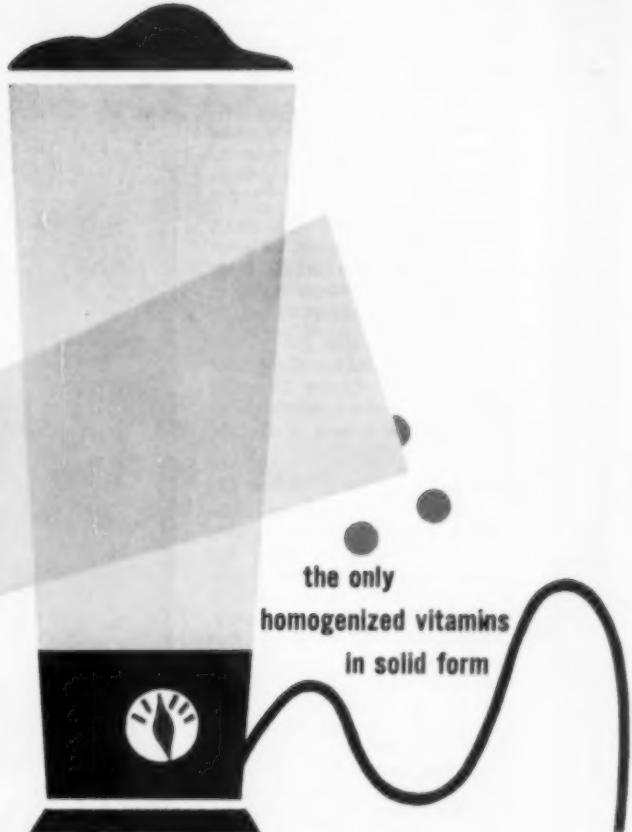
antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform-Hydrocortisone Cream, containing iodochlorhydroquin U.S.P. 3% and hydrocortisone (free alcohol) U.S.P. 1% in a water-washable base; tubes of 5 and 20 Gm. VIOFORM® (iodochlorhydroquin U.S.P. CIBA)

C I B A Summit, N. J. © CIBA 1959

MEDICAL TIMES

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better absorbed
better utilized



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in solid form

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Homagenets provide multivitamins in the same way as do the most nutritious foods. By a unique process, the vitamins are homogenized, then fused into a solid, highly palatable form. Compare the taste of Homagenets with other vitamin preparations.

Homogenization presents both oil and water soluble vitamins in microscopic particles. This permits greater dispersion of the vitamins—thus better absorption and utilization. And the flavorful base assures patient acceptance.

Advantages—

- Better absorption, better utilization
- Excess vitamin dosage unnecessary
- Pleasant, candy-like flavor
- No regurgitation, no "fishy burp"
- May be chewed, swallowed or dissolved in the mouth

Three formulas:

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Pediatric

Therapeutic

Send for samples of Homagenets.

Taste them, and compare.

*U.S. Pat. 2676136. Other Pat. Pending

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BRISTOL, TENNESSEE • NEW YORK • KANSAS CITY • SAN FRANCISCO

In a series of 120 patients with diverse complaints such as gas, bloating, nausea, cramps, etc. referable to the g.i. tract, Olson¹ obtained "rapid symptomatic relief" in 92 cases with COACTYN, a new pH-adjusted phosphorated carbohydrate solution containing homatropine methylbromide and phenobarbital.

Significantly, in those cases which were *functional* in nature, the relief obtained was "more satisfactory than with usual antispasmodic or anticholinergic medications."

AND

"When Coactyn did not afford relief from symptoms, further diagnostic procedures in most instances revealed organic lesions of the g.i. tract."

ABSTRACT OF CASE REPORT

A 42-year-old white female complained of severe gas and bloating after eating "almost anything." She had had a cholecystectomy. Abdominal distention was so marked as to raise the question of pregnancy. Cramping became so severe that parenteral anticholinergics were sometimes required, with but partial relief. A g.i. series revealed only hypermotility and spasticity of the entire g.i. tract. Among the drugs which had been tried were estrogens, sedatives, almost all of the available antispasmodics, and numerous alkaline buffering agents. None gave satisfactory relief. Administration of COACTYN resulted in "almost complete alleviation of symptoms." The patient was able to tolerate a better balanced diet. The author calls attention to the "topical" antispasmodic effect of the pH-adjusted phosphorated carbohydrate solution.

FORMULA:

Each teaspoonful contains 0.5 mg. homatropine methylbromide and 8 mg. phenobarbital in a phosphorated carbohydrate solution with the pH of the entire preparation adjusted at an optimally effective level. Alcohol 9.5%. Pleasantly apricot-flavored.

DOSAGE:

1 or 2 teaspoonsfuls, *undiluted*, 15 minutes before meals; additional doses if necessary.

SUPPLIED:

Bottles of 3 fl.oz. and 16 fl.oz.

1. Olson, J. A.: Am. J. Digest. Dis., Nov., 1955.



NEW...

**a faster-acting
more effective
spasmolytic**

Coactyn®

Kinney®

**KINNEY & COMPANY, INC.
Columbus, Indiana**

in
pyelonephritis
delay is
dangerous...



FURADANTIN
BRAND OF NITROFURANTOIN

first...
for rapid eradication of infection

In the majority of 112 cases of acute, persistent or relapsing urinary tract infections "nitrofurantoin [FURADANTIN] was effective clinically, with a pronounced improvement, indicated by the appearance of the urine as well as by verbal commendation by the patient, within 24 to 36 hours . . . Some of these patients with seemingly impossible cases were cured of their infection."¹

FURADANTIN *first* because of these advantages: a specific for urinary tract infections • rapid bactericidal action • negligible development of bacterial resistance • nontoxic to kidneys, liver and blood-forming organs.

AVERAGE DOSAGE: ADULTS—four 100 mg. tablets daily; 1 tablet during each meal and 1 on retiring, with food or milk. In acute, uncomplicated infections, 50 mg. q.i.d. may be prescribed. If patient is unresponsive after 2 to 3 days, increase dose to 100 mg. q.i.d.

CHILDREN—5 to 7 mg. per Kg. (2.2 to 3.1 mg. per lb.) per 24 hours.

SUPPLIED: Tablets, 50 and 100 mg. Oral Suspension (25 mg. per 5 cc. tsp.).

¹Stewart, E. L., and Ruem, H. J.: *J. Am. Med. Ass.* **160** (22), 1956.



EATON LABORATORIES, NORWICH, NEW YORK

Nitrofurans—A new class of antimicrobials—neither antibiotics nor sulfonamides.

MODERN THERAPEUTICS

—Continued from page 120a

3. *Pulmonary edema.* This condition is most frequently encountered in the hypertensive patient, in patients with valvular heart disease, and associated with acute myocardial infarction. With the first two conditions, attacks frequently occur at night. Upon reaching the patient's home, the physician has him placed in an easy chair next to the bed so that the dependent position of the feet and consequent pooling of the blood in the legs will lower the blood volume by 400 to 500 cc. Morphine sulfate should be given intramuscularly or intravenously immediately. Vomiting can be controlled by Dramamine intraven-

ously. Do not use atropine. Unless improvement occurs rapidly, further treatment may necessitate a rapidly-acting digitalis preparation, a mercurial diuretic, and a dry phlebotomy by tournequets.

4. *Myocardial infarction.* The clinical picture may be extremely variable. If 100 mg. of Demerol subcutaneously does not relieve the pain, morphine, Dilaudid or Pantopon may be used. Dramamine relieves the vomiting caused by cardiac medication, and has a sedative effect. Heavy doses of any drug and especially of Thorazine must be avoided since their tendency is to precipitate shock. Absolute bed rest is indicated. Hospitalization is preferred, and facilitates the use of oxygen for the first few days. The patient must be watched

—Continued on page 128a



PFIZER LABORATORIES
Division, Chas. Pfizer & Co., Inc., Brooklyn 6, New York

MEDICAL TIMES



SURGEONS WITH "THE FEATHER TOUCH"

CHOOSE FINER SIZES OF D&G GUT

*"Gentleness in handling
fragile tissues must
be mastered, and the
feather touch is essential."*

Potts, W. J.; J. K. M. A. 157:627 (Feb. 19) 1955, p. 629.

SURGEONS APPRECIATE the smooth flexible "hand" of D & G gut. They sense the extra knot security offered by D & G's special matte finish.

The rapid trend to the regular use of 000, 4-0 and 5-0 gut in the past five years has brought increased recognition of the values of D & G gut. Special processing assures the most strength with the least gut—unlike ordinary gut which is ground to size with some loss of flexibility and tensile strength.

The finer sizes of D & G plain, mild chromic and medium chromic gut are, and have been, the acknowledged world-wide standard for gastrointestinal and eye surgery for over twenty years.

When you want to approximate mucous membranes... repair tissues of the neck... ligate small blood vessels... or whenever you want to use your "feather touch," check with your O R Supervisor to be sure you have the advantages of finer sizes of D & G gut.



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Advancing with surgery

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FLEXIN

(Zoxazolamine, * McNeil)

engestic coated

(ENTERIC)

**PROMPT RELIEF
IN LOW BACK PAIN**

With FLEXIN, "...17 of the 20 patients with post-traumatic muscle spasm of the low back had excellent or good responses."¹

AVAILABLE: Tablets, Engestic Coated, pink,
250 mg., bottles of 36.
Tablets, scored, yellow, 250 mg., bottles of 50.

1. Wallace, S. L.: Zoxazolamine (Flexin) in Low Back Disorders, to be published.

*U.S. Patent Pending

McNEIL

Laboratories, Inc.
Philadelphia 32, Pa.

06187

fatigue

memory lapses

muscular pain

depression

MODERN THERAPEUTICS

—Continued from page 124a

for the possible development of cardiogenic shock, arrhythmias and congestive heart failure. The outcome of cardiogenic shock is seldom favorable. Drug therapy in the form of Vasoxyl, and Levophed should be used intravenously and, in the absence of evidence of pulmonary edema, whole blood or plasma may be given. In acute myocardial infarction, anticoagulant therapy should be started as early as possible.

The Chronic Cough

In chronic pulmonary disease, after accurate diagnosis, correction of the pathologic mechanisms responsible for the accompanying cough may require long-term therapy. Thus symptomatic

treatment of the cough may be indicated in order to afford the patient immediate relief from the harassing spasms that are so physically exhausting. The non-productive cough serves no useful purpose and should be repressed. The productive cough, on the other hand, serves to remove accumulated secretions from the bronchial tree, and should be enhanced, especially if the viscosity of the secretions makes their dislodgement by the patient extremely fatiguing. Expectorant cough medication is valuable in reducing the tenaciousness of the sputum and facilitating its removal by the cough reflex. Reports from the use of Robitussin caused E. W. Hayes and L. S. Jacobs of Monrovia, California, *Diseases of the Chest* [30:441 (1956)] to determine its effectiveness as an expectorant in productive cough

—Continued on page 132a



PSORIASIS

*Proved Clinically Effective Oral Therapy —
maintenance regimen may keep patients
lesion-free.*

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LIPAN Capsules contain: Specially prepared highly activated, desiccated and defatted *whole Pancreas*: Thiamin HCl, 1.5 mg. Vitamin D, 500 I.U.

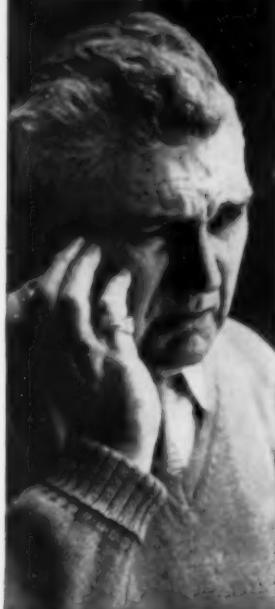
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fatigue



memory lapses



muscular pain



depression



for middle-age slowdown

Plestran is indicated as an aid in restoration of vigor in middle-aged or elderly patients who complain of chronic fatigue... reduced vitality... low physical reserve... impaired work capacity... depression... muscular aches and pains... or cold intolerance. Such "signs of aging," far from being due to physiologic disturbances, may often result from endocrine imbalance, especially gonadal and thyroid dysfunction.¹⁻⁴ Plestran provides ethinyl estradiol (0.005 mg.); methyltestosterone (2.5 mg.); and Proloid^{®*} (1/4 gr.)—hormones which help to correct endocrine imbalance and often halt or reverse involutional and degenerative changes.¹⁻⁴

Plestran restores work capacity and a sense of well-being, usually within 7 to 10 days. It improves nitrogen balance, leads to better muscle tone and vigor, enhances mental alertness,

*Purified thyroid globulin

helps to correct osteoporosis, senile skin and hair texture changes and relieves muscular pain.

The anabolic and tonic effects of the hormones in Plestran appear to be enhanced by combination so that small dosages are very effective. Combination also overcomes some of the disadvantages of therapy with a single sex hormone, such as virilization, feminization or withdrawal bleeding.⁵

Dosage: Usually one tablet daily; occasional patients may require two tablets daily, depending on clinical response.

Supplied in bottles of 100 and 500.

References: 1. McGavack, T. H.: Geriatrics 5:151 (May-June) 1950. 2. Masters, W. H.: Obst. & Gynec. 8:61 (July) 1956. 3. Kimble, S. T., and Steiglitz, E. J.: Geriatrics 7:20 (Jan.-Feb.) 1952. 4. Kountz, W. B., and Chieffo, M.: Geriatrics 2:344 (Nov.-Dec.) 1947. 5. Birnberg, C. H., and Kurzrok, R.: J. Am. Geriatrics Soc. 3:656 (Sept.) 1955.

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TRADEMARK

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What do you want in an analgesic?

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(Salts of Dihydrohydroxycodeinone and Homatropine, plus APC)

FOR PAIN

Better than codeine plus APC¹

speed

acts faster than codeine plus APC—
usually within 15 minutes^{1,2}

duration

relieves pain longer than
codeine plus APC—usually for 6 hours

with virtual freedom from constipation^{1,2}

Average adult dosage, 1 tablet q. 6 h. Supplied
as scored, yellow oral tablets. May be habit-
forming. Literature? Write—

Endo®

ENDO LABORATORIES INC. Richmond Hill 18, New York

1. Blank, P., and Boas, H.: Ann. West. Med. & Surg. 6:376, 1952.
2. Piper, C. E., and Nicklas, F. W.: Indust. Med. 23:510, 1954.

*U. S. Pat. 2,628,185

extra protection
for every conception

Hesper-C Prenatal

with capillary-protective factors

*a precaution in normal pregnancy
a necessity in habitual abortion^{1,2}*

The problem of spontaneous abortion is not limited to habitual aborters. It is estimated that 10% to 20% of all pregnancies end in spontaneous abortion. Studies by Greenblatt,^{1,3} Javert^{4,5} and Dill² have revealed that integrity of the decidual vessels is a key to successful completion of pregnancy . . . and confirm that hesperidin complex and ascorbic acid, provided by Hesper-C Prenatal, restore and maintain capillary integrity.^{6,7}

In several groups of habitual aborters, these researchers effected substantial fetal salvage—as high as 95% in one series⁴—when Hesper-C (hesperidin complex and ascorbic acid) was added to a regimen of prenatal supplementation and therapy.

Only Hesper-C Prenatal gives your patients the extra protection of hesperidin complex and ascorbic acid, plus the established prenatal vitamin-mineral supplementation, at a nominal increase in daily cost.

Hesper-C Prenatal is the only complete supplement for all your pregnant patients.

Each capsule contains:

Hesperidin Complex	100 mg.	Vitamin B ₁₂	0.75 micrograms
Ascorbic Acid	100 mg.	Folic Acid	0.05 mg.
Vitamin A Acetate	1000 U.S.P. units	Pyridoxine Hydrochloride	1.67 mg.
Vitamin D ₂	200 U.S.P. units	Calcium Pantothenate	1.0 mg.
Thiamine Mononitrate	1.25 mg.	Ferrous Gluconate (2.5 mg. iron)	21.6 mg.
Riboflavin	0.75 mg.	Calcium Carbonate (83.3 mg. calcium)	208.25 mg.
Nicotinamide	5.0 mg.	Copper Sulfate (0.5 mg. copper)	2.0 mg.
		Potassium Iodide (0.05 mg. iodine)	0.065 mg.

In bottles of 100 and 500 capsules.

Recommended daily dose: Two capsules t.i.d.

Providing the daily requirements or more of vitamins and iron during pregnancy as recommended by the National Research Council.

References: 1. Greenblatt, R. B.: Obst. & Gynec. 2:530, 1953. 2. Dill, L. V.: M. Ann. District of Columbia 21:667, 1954. 3. Greenblatt, R. B.: Ann. New York Acad. Sc. 61:713, 1955. 4. Javert, C. T.: Obst. & Gynec. 1:420, 1954. 5. Javert, C. T.: Ann. New York Acad. Sc. 61:700, 1955. 6. Barishaw, S. B.: Exp. Med. & Surg. 7:558, 1949. 7. Selzman, G. J. V., and Horoschak, S.: Am. J. Digest. Dis. 17:92, 1950.

*Products
of Original
Research*



THE NATIONAL DRUG COMPANY

Philadelphia 44, Pa.

MODERN THERAPEUTICS

—Continued from page 128a

due to chronic pulmonary disease. In the group of 100 patients studied, 66 had pulmonary tuberculosis, 13 had bronchiectasis, and 21 had chronic bronchitis. The drug was significantly beneficial in reducing the severity of the cough. Its most striking effect was in reducing the tenaciousness of the sputum, rendering it easier to raise. It also exerted a pronounced effect in reducing the frequency of the cough. Cough medication should produce no untoward side-effects, and should be acceptable to the patient. The fact that Robitussin fulfilled these requirements in addition to being an effective expectorant, en-

hances its value in the treatment of chronic cough.

The Efficacy of Cortisone in Orchitis

Cortisone was used in the treatment of 5 patients with orchitis secondary to epidemic parotitis reported by Risman in *J.A.M.A.* [162:375 (1956)]. In all cases, 300 mg. of cortisone were given initially. Subsequent dosage varied from 100 to 300 mg. a day until symptoms subsided. The drug was then gradually withdrawn in decrements of about 50 mg. a day.

Cortisone provided significant relief from pain and tenderness but did not shorten the course of the orchitis nor reduce the degree of fever. While re-

—Continued on page 136a

twin benefits
for patients on a high-starch diet
TAKA-COMBEX®
to help them
cope with carbohydrate
avoid vitamin deficiencies

TAKA-COMBEX® Kapsules—containing the starch-digestent Taka-Diastase, B-complex vitamins, ascorbic acid, and liver concentrates—is available in bottles of 100 and 1,000.

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XYLOCAINE® HCl SOLUTION

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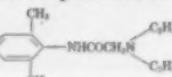
Xylocaine gives peak values in • Speed • Depth
Duration • Clinical Effectiveness • Clinical Tolerance
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Trade Name: XYLOCAINE

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Chemical Name: α -Diethylaminoaceto-2,6-xylidide

Chemical Structure:



Potency: Two to three times that of procaine.

Duration of Action: Two to three times that of procaine.

Anesthetic Index: 1.8.

Surface Anesthetic Index: 8.

Safety Factor: Two to three times that of procaine (because smaller concentrations and volumes are clinically as effective).

Sensitivity: Allergic manifestations and sensitizing reactions have never been reported.

Inhibition of Action of Sulfonamides or Antibiotics: None.

Versatility: Effective in local infiltration anesthesia; in major conduction anesthesia; in temporary therapeutic blocks for relief of pain; in topical anesthesia.

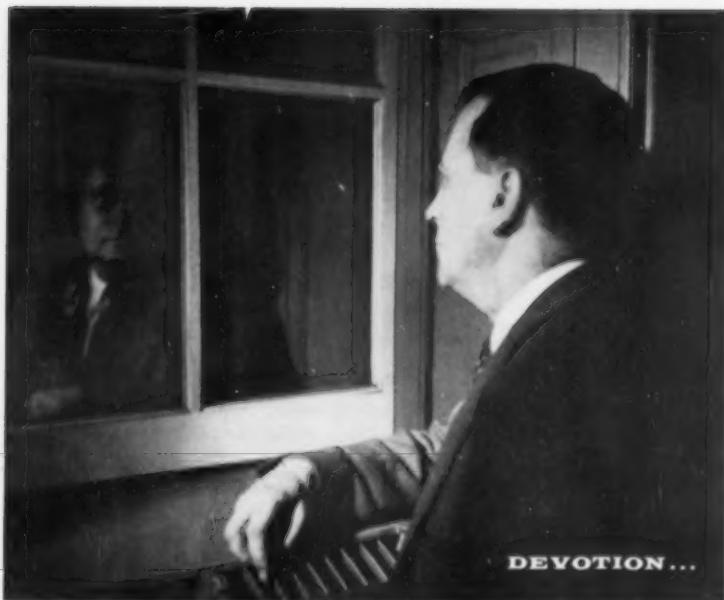
Supplied: Vials, 0.5%, 1%, 2% in 20 cc., 50 cc. without and with epinephrine 1:100,000; 100 cc. vials, 1% without epinephrine.

Ampoules, 2 cc., 2% without and with epinephrine 1:100,000.

Astra Pharmaceutical Products, Inc., Worcester 6, Mass.

*U. S. PATENT NO. 2,441,498





This is a doctor. We know the tools of his education dedicate him to his daily work. We also know that his work is varied, complex, and always demands a broad personal and infinitely professional approach. His may be a rewarding chore... but it's a most trying one. Above all, his responsibility is the restoration and preservation of the health of those who seek his help.

It is for these men that we devote intensive research and study techniques to provide for them the finest conception control products. History indicates... if product demand is an index... that ours assure consistently more effective results*. We're pleased that doctors of America have proven this.

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*quicker relief
and shortened disability
in Herpes Zoster and Neuritis*

Protamide®

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With only one to four injections of Protamide® prompt and complete recovery was obtained in 84% of all herpes zoster patients and in 96% of all neuritis patients treated during a five-year period by Drs. Henry W., Henry G., and David R. Lehrer (Northwest Med. 75:1249, 1955).

The investigators report on a total of 109 cases of herpes zoster and 313 cases of neuritis, all of whom were seen in private practice. All but one patient in each category responded with complete recovery.

This significant response is attributed to the fact that Protamide therapy was started promptly at the patient's first visit.

The shortening of the period of disability by this method of management is described as "a very gratifying experience for both the physician and the patient."



Protamide® is a sterile colloidal solution prepared from animal gastric mucosa . . . free from protein reaction . . . virtually painless on administration . . . used intramuscularly only. Available from supply houses and pharmacies in boxes of ten 1.3 cc. ampuls.

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Start

Prompt

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No laxative works properly unless the colon is supplied with sufficient non-irritating bulk of medium soft consistency to promote a more normal peristaltic pattern.¹ L. A. FORMULA provides just such an effective, smooth bulk.

In most instances, L. A. FORMULA by itself insures regular easily passed stools that are associated with a minimum of peri-anal soiling.²

But regardless of what laxative you prescribe—lubricant, mucosal irritant, or other type of bowel stimulant—a moist, smooth bulk is still essential to normal evacuation.³

That's why we say—to normalize

prescribe . . . L. A. Formula

either alone, or
with the laxative of your choice

* * *

References

- Dolkart, R. E., Dentler, M., & Barrow, L. L., *Bl. Med. J.*, 90:286, 1946
- Cox, L. J., & Wolf, E. P., *Gastroenterology*, 20:149, 1952
- Wozasek, O., & Steigman, F., *Am. J. Digest. Dis.*, 9:423, 1942



for clinical trial sample packages, send to

BURTON, PARSONS & COMPANY
Originators of Five Hydrophilic Colloids
WASHINGTON 9, D. C.

MODERN THERAPEUTICS

—Continued from page 132a

ceiving large doses of cortisone, contralateral orchitis developed in three patients. The author concluded, therefore, that cortisone provided only symptomatic relief in the treatment of orchitis.

The Use of a Rauwolfia-Ephedrine Combination

Distressing side effects were reported to have been developed in 20 of 68 patients treated with rauwolfia preparations. Such effects as nasal congestion, excessive drowsiness, nightmares, irrational behavior, and agitated depression were observed. Feinblatt, Feinblatt, and Ferguson reported in *J.A.M.A.* [161:424 (1956)] that these side effects

—Continued on page 139a

impetiginized eczema

in this skin disorder
and many more

NEW Vioform® Hydrocortisone Cream

antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform-Hydrocortisone Cream, containing iodochlorhydroxyquin U.S.P. 3% and hydrocortisone (free alcohol) U.S.P. 1% in a water-washable base; tubes of 5 and 20 Gm. VIOFORM® (iodochlorhydroxyquin U.S.P. CIBA)

C I B A Summit, N. J. 2725000

MEDICAL TIMES

In the arthritides . . . a prudent course



Ulysses and the Sirena—from a vase in the British Museum

*between the hazards of high steroid dosage
and the frustration of inadequate relief*

Because of the complementary action of cortisone and the salicylates, Salcort produces a greater therapeutic response with lower dosage.

One study concludes: "Salicylate potentiates the greatly reduced amount of cortisone present so that its full effect is brought out without evoking undesirable side reactions."¹

S A L C O R T ^{® *}

indications:

Rheumatoid arthritis . . . Rheumatoid spondylitis . . . Rheumatic fever . . . Neuromuscular affections.

¹Bunse, E.A.: Treatment of Rheumatoid Arthritis by a Combination of Cortisone and Salicylates. Clinical Med. 77:1105.

each tablet contains:

Cortisone acetate	2.5 mg.
Sodium salicylate	0.3 Gm.
Aluminum hydroxide gel, dried	0.12 Gm.
Calcium ascorbate	60.0 mg. (equivalent to 50 mg. ascorbic acid)
Calcium carbonate	60.0 mg.

*U.S. Pat. 2,691,662

The S. E. MASSENGILL Company, Bristol, Tennessee

NEW YORK • KANSAS CITY • SAN FRANCISCO



Give your patient that extra lift with "Beminal" 817



**Give your patient that extra lift
with "Beminal" 817 when high
vitamin B and C levels are required.**

"Beminal" 817—each capsule contains:

Thiamine mononitrate (B ₁)	25.0 mg.
Riboflavin (B ₂)	12.5 mg.
Nicotinamide	75.0 mg.
Pyridoxine HCl (B ₆)	3.0 mg.
Calc. pantothenate	10.0 mg.
Vitamin C (ascorbic acid)	150.0 mg.
Vitamin B ₁₂ with intrinsic factor concentrate	1/9 U.S.P. Unit

New improved formula



Dosage: 1 to 3 capsules daily, or more, depending upon the needs of the patient.

Supplied: Bottles of 100 and 1,000 capsules.



AYERST LABORATORIES

New York, N. Y. • Montreal, Canada 5702

(Vol. 85, No. 2) February 1957

MODERN THERAPEUTICS

—Continued from page 136a

were overcome in each case by the addition of 8 mg. of ephedrine. It was recommended that this dose of ephedrine be combined with 100 to 200 mg. of whole powdered rauwolfa root or with 0.1 to 0.25 mg. of reserpine. Such dosage should be given three times a day.

Sulphadimidine Used Prophylactically in Children

Chemoprophylaxis in connection with infections of the respiratory tract, a procedure once in considerable favor, suffered a loss in popularity with the appearance of sulphonamide-resistant streptococci. However, the extent of the problem of recurrent infections in the upper respiratory tract caused the author, J. B. Burke of London in *British Medical Journal* [1:538(1956)], to conduct a trial of prophylactic sulphonamide therapy on a group of children awaiting tonsillectomy. For eight months the children reported to the hospital at eight-week intervals. During half of that period, half of the children took a tablet containing 60 per cent of calcium carbonate and 40 per cent of calcium lactate; during the other four months they took an identical-appearing tablet containing 0.5 Gm. of sulphadimidine: the type of medication was reversed in each group for the second four-month period. Children weighing under 60 pounds were given one tablet daily, the others took two tablets. Records were kept by the family physician and by the mothers. Infections of the respiratory tract were classified as ton-

—Continued on following page

MODERN THERAPEUTICS

—Continued from preceding page

sillitis, otitis media, bronchitis, and pneumonia; coryza was included only when associated with one of the others. Inclusion in the trial was on a voluntary basis. Forty-eight children completed the trial. During that period, 30 weeks were lost from school because of upper respiratory infections by the 37 children in the group who were of school age, and were receiving the calcium tablets; the family physician was called upon to treat 41 cases of illness. While the children were on the sulphadimidine therapy, the absence from school was 30 weeks, and 25 cases of illness were treated. While under treatment, the size of the tonsils was noted at each visit.

—Continued on page 142a

infantile eczema

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anti-inflammatory
antipruritic

SUPPLIED: Viotform-Hydrocortisone Cream, - containing iodochlorhydroxyquin U.S.P. 3% and hydrocortisone (free alcohol) U.S.P. 1% in a water-washable base; tubes of 5 and 20 Gm.

VIOFORM®(iodochlorhydroxyquin U.S.P. CIBA)

C I B A Summit, N.J. 07488



6720 hours of stress

R_X OBRON[®] t.i.d.

for pre-natal supplementation

"Stress of pregnancy . . . 24 hours a day, for the entire gestation, the postpartum period and lactation." In OBRON, 8 essential vitamins, calcium, iron and 8 other minerals are formulated to compensate for stress-conditioned gestational deficiencies.

In bottles of 100 soft, soluble capsules.

I. Tompkins, W. T.: In *Modern Nutrition in Health and Disease*, ed. by Wohl, M. W. and Goodhart, R. S., Lea & Febiger, Philadelphia, 1955, p. 885.



CHICAGO 11, ILLINOIS

PEACE of mind ATARAX®

SINUSITIS

Relief

At a symposium¹ in Lima, Peru, in 1956, it was reported that good aeration and drainage are essential to the successful management of sinusitis. Conservative therapy was preferred to radical operations.

Numerous reports from physicians show that Iodo-Niacin Tablets liquefy accumulated mucus in the sinuses, thus aiding drainage and aeration. As Remington states, "potassium iodide is one of the most valuable of the saline expectorants and is widely employed in the treatment of bronchitis and asthma where it affords relief by liquefying tenacious sputum."²

Surgery

Clinical reports prove that sinus headaches are effectively relieved by Iodo-Niacin as adequate drainage is established and the passages are cleared. Medication may be continued in full dosage over long periods of time *without any hazard of iodism*³.

IODO-NIACIN*

Prolonged Relief in Sinusitis

1. J.A.M.A. 161:391, 1956.
2. Practice of Pharmacy, 11th ed., 1956, p. 471.
3. Am. J. Digest. Dis. 22:5, 1955.
4. M. Times 84:741, 1956.

* U.S. PATENT PENDING

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St. Louis 8, Mo.

COLE CHEMICAL COMPANY
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St. Louis 8, Mo.

MT2

Gentlemen Please send me professional literature and samples
of IODO NIACIN

M.D.
STREET

CITY _____ ZONE _____ STATE _____

MODERN THERAPEUTICS

—Continued from page 140a

There was a significant diminution in the size of the tonsils during the sulphadimidine therapy. The author believes that this form of treatment is worth a trial as an alternative to tonsillectomy in children subject to recurrent infections of the upper respiratory tract.

The Effect of Ion Exchange Resins on Pyrogens

A supply of ordinary tap water was passed through uncharged ion exchange columns. This water was found to be pyrogenic both before and after passage. The columns were then charged and tap water was passed through the columns. The water collected from the columns

—Continued on page 140a

anogenital pruritus

in this skin disorder
and many more

NEW Vioform® Hydrocortisone Cream

antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform-Hydrocortisone Cream, containing iodochlorhydroxyquin U.S.P., 3% and hydrocortisone (free alcohol) U.S.P., 1% in a water-washable base; tubes of 5 and 20 Gm.

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IN THE
Management
OF SMOOTH
MUSCLE
SPASM

HVC

HAYDEN'S VIBURNUM COMPOUND

. . . helps remove tension from
nerve endings — corrects imbalance
— restores normal muscle tone.

Write today for professional sample;
try HVC on your next case of smooth
muscle spasm.

HVC

NEW YORK PHARMACEUTICAL CO.
Bedford, Mass. U.S.A.



to curb those
sleep-disrupting
"night coughs"



that waken the whole household...

CLISTIN® EXPECTORANT

Clistin Expectorant is the only cough product containing Clistin—that well-accepted, potent antihistamine. Relieves coughs of the common cold and coughs of allergic or non-allergic upper respiratory conditions.

Clistin Expectorant—samples on request.



"anti-cough" . . .
antihistaminic . . .
completely safe
for pediatric use . . .
non-narcotic . . .
does not upset
the stomach . . .
tastes wonderful

MODERN THERAPEUTICS

—Continued from page 142a

was then found to be free from pyrogens. Further investigation showed that the anion exchange resin was responsible for removing the pyrogens. According to Whittet in *Pharm. J.* [177:270 (1956)], there is some evidence that the anion exchange resins were more effective against certain pyrogens than others.

Pediatric Infections Treated With Intramuscular Oxytetracycline

A plan of therapy for various pediatric infections was presented by Levit in *Antibiot. Med. & Clin. Ther.* [3:315

(1956)]. Intramuscular injections of 100 mg. of oxytetracycline once a day were administered in the physician's office. A total of 47 patients were treated, with 31 having follicular tonsillitis. All of the patients with follicular tonsillitis became afebrile or asymptomatic with a marked fall in temperature within 72 hours. Among the other 16 patients, only one, a patient with laryngitis, did not respond satisfactorily to this therapy.

The side effects were minimal and required withdrawal of therapy in only two patients. The gastrointestinal symptoms frequently observed with oral administration of oxytetracycline were completely eliminated. Among the pa-

—Continued on page 148a

with antibiotics
one of many indications for

Myadec®

high potency vitamin-mineral formula

"The necessary use of antibiotics, sulfonamides and other drugs calls for nutritional measures to offset their antimetabolic effect."¹⁶

MYADEC Capsules are supplied in bottles of 30, 100, 250, and 1,000.

¹⁶Clemmed, D. G., in Wohl, M. G., & Goodhart, R. S.: *Modern Nutrition in Health and Disease*, Philadelphia, Lippincott, 1955, p. 825.

PARKE, DAVIS & COMPANY • DETROIT 32, MICHIGAN



DRY, SCALY SKIN
DETERGENT RASH
SUNBURN
SIMPLE ECZEMA
DIAPER RASH
'DISHPAN' HANDS
PRICKLY HEAT
CHAFING

Superficial skin complaints usually respond dramatically to
TASHAN CREAM 'Roche'

Antiprurient, soothing, and healing—
contains vitamins A, D, E, and *d*-Panthenol,
in a cosmetically pleasing water-soluble
base which fastidious patients will enjoy
using. Hoffmann-La Roche Inc., Nutley, N. J.

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Mrs. Diet Devicer is a Vitamin Slicer

10 important vitamins in each tiny Dayalet:

Vitamin A	3 mg. (10,000 units)
Vitamin D	25 mcg. (1000 units)
Thiamine Mononitrate	5 mg.
Riboflavin	5 mg.
Nicotinamide	25 mg.
Pyridoxine Hydrochloride	2 mg.
Vitamin B ₁₂	2 mcg. (as cobalamin concentrate)
Folic Acid	0.25 mg.
Calcium Pantothenate	5 mg.
Ascorbic Acid	100 mg.

She's been on so many fad diets that she's inventing her own. Poundage loss is her goal—nutrition take the hindroad. Pretty soon, she'll be around to see you, wondering what hit her. While you're getting her off her one-track menu, keep Dayalets in mind. They're potent, easy-to-take . . . and will help her along the road to sounder—and saner—nutrition. Abbott

Dayalets®
(Abbott's Multiple Vitamins)



Anxious neurotics

"[‘Thora-Dex’] relieved or considerably reduced the anxieties and apprehensions of the neurotics. Patients showed increased energy and renewed interest in their activities."¹

THORA-DEX*

a combination of Thorazine† and Dexedrine‡

to relieve anxiety and elevate mood

Available in tablets of two strengths:

No. 1 (10 mg. ‘Thorazine’ and 2 mg. ‘Dexedrine’);
No. 2 (25 mg. ‘Thorazine’ and 5 mg. ‘Dexedrine’).

I. Hart, T.M.: Am. Pract. & Dig. Treat., Dec. 1956.

Smith, Kline & French Laboratories, Philadelphia

*Trademark †T.M. Reg. U.S. Pat. Off. for chlorpromazine, S.K.F.
‡T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.

MODERN THERAPEUTICS

—Continued from page 144a

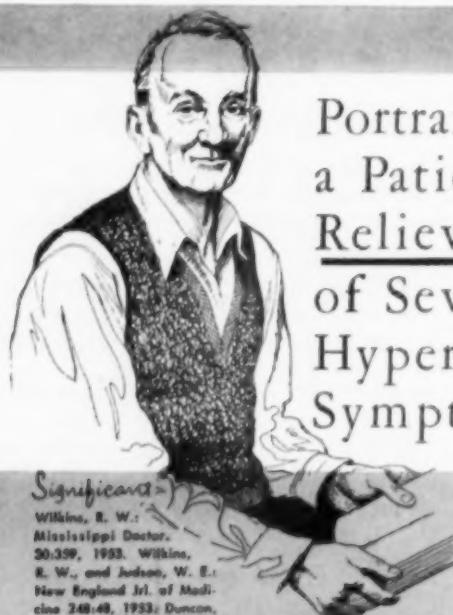
tients with tonsilitis, the course of therapy was 2 to 6 injections.

Treatment of Obesity with Sustained Release Medication

A sustained release capsule containing *d*-amphetamine and amobarbital or a placebo was given to 39 grossly obese patients for a period of 8 weeks, after which the capsule types were switched. The sustained release capsules were designed to release their medication over a period of 8 to 10 hours. All of the patients had failed to satisfactorily lose weight on diet alone.

According to the report by Shapiro and Michaile in *Internat. Rec. of Med. & G.P. Clinics* [169:638 (1956)], both the placebo and the medication caused 29 of the 39 patients to lose weight. However, the medication was significantly superior to the placebo in 21 patients. The average weekly weight loss on the active medication was about one half a pound and on the placebo it was about one third of a pound. In addition, the medication was effective in relieving many of the patients from vague, yet troublesome, psychosomatic complaints. The physical well-being and cheerfulness of the patients usually coincided with a loss in weight.

The authors concluded that many obese patients need more than diet to



Portrait Of a Patient Relieved of Severe Hypertension Symptoms



Significant

Wilkins, R. W.:
Mississippi Doctor,
30:39, 1933. Wilkins,
R. W., and Judson, W. E.:
New England Jrl. of Medicine 248:48, 1953; Duncan,
Garfield G.: Philadelphia
Medicine 51:24, 1936.

another new approach by . . .

achieve a satisfactory weight loss. The sustained release capsule of *d*-amphetamine and amobarbital appeared to provide a safe and effective adjunct to diet therapy in such patients.

A New Compound for the Symptomatic Treatment of Tension and Anxiety

A new compound, 2-ethylcrotonylurea (Nostyn), has been found to be an effective sedative in mild anxiety and tension states. There is a wide range between the sedative dose and the hypnotic and lethal doses. There were practically no side effects and no evidence of cumulative effect or of drug tolerance. Ferguson and Linn also reported, in *Antibiot. Med. & Clin. Ther.* [3:329

(1956)], that the drug was rapidly metabolized and absorbed.

A daily dosage of 900 mg., given in three equal doses, produced adequate clinical response without hang-over or grogginess. There was also no evidence of habituation nor of withdrawal symptoms. The authors also stated that this new drug could be effectively used to replace reserpine and barbiturates when used as a sedative.

Oxytetracycline-Hydrocortisone Ointment in the Therapy of Common Dermatoses

A petrolatum base ointment containing 3 per cent oxytetracycline and 1 per cent hydrocortisone was used solely in



Portrait Of a Product...

In the management of mild and severe hypertension many more patients tolerate

VERAPENE®

In each apple green, scored tablet. Reserpine—0.1 mg. Protoveratrine A & B—0.4 mg.

SUBJECTIVE improvement is prompt and marked. Patients say they feel better.

DISTURBING SYMPTOMS such as headache, dizziness, tinnitus, disappear rapidly.

THE CHARACTERISTIC EFFECT of Protoveratrines A & B is enhanced by combining with reserpine, reducing the dosage requirements.

PATIENTS who are receiving reserpine respond more favorably to veratrum alkaloids. *'Many more patients tolerate the two drugs in combination, as response can be produced with dosage below usual limits of tolerance.'*

sample and literature on request

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VIDERMA

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WD-51

*The Hair Corrective which
Eliminates Dandruff
Stops Itching Scalp
Aids in Lessening
Damaged Hair Fall*

"In the group of 82 patients, it was concluded that the itching of the scalp, dandruff and excessive hair fall was controlled in 85% of the patients by the continuance of this hair preparation."*

* Lubowe, I. I.: Medical Times 85:58, 1957.

Note: Clinical Report and Samples available to all physicians upon written request.

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40 Remsen Street
Brooklyn 1, N. Y.

MODERN THERAPEUTICS

—Continued from preceding page

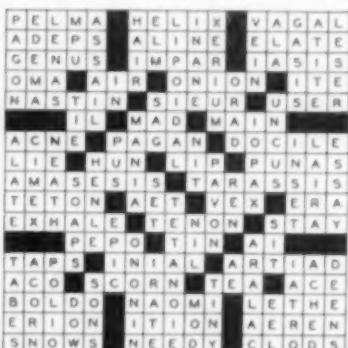
the treatment of 291 patients with various dermatoses. The ointment was applied twice a day in a thin layer over the affected area. Hutner reported in *Antibiot. Med. & Clin. Ther.* [3:326 (1956)] that excellent results were obtained in 76 per cent of the cases and fair results in an additional 15 per cent. Atopic dermatitis was particularly prevalent among these patients, being treated in 129 cases. Atopic dermatitis responded to therapy in 91 per cent of the cases.

The author reported that side effects warranting withdrawal of therapy occurred in only one patient. The usual duration of treatment was about 7 to 10 days. The authors concluded that this form of topical therapy was well suited to use in common dermatoses that may be complicated by secondary bacterial infection.

—Continued on page 152a

MEDICAL TEASERS

Solution to puzzle on page 45a



the plus value...
increased improvement
+
fewer electrolytic
side effects

METICORTELONE

TABLETS

prednisolone

• benefits patients longer because discontinuance due to fluid retention or hypertension is rarely necessary.

• edema, electrolyte disturbance, and associated blood pressure elevation are virtually nonexistent in average dosage.

• valuable in a wide variety of disorders amenable to corticosteroids including—drug reactions, atopic eczemas and rheumatic fever as well as rheumatoid arthritis and asthma.

Schering



ties
the physician's hands
in treating
the asthmatic

METICORTELONE

TABLETS

prednisolone

rapidly relieves dyspnea • increases vital capacity
reduces bronchospasm
... usually without edema due to salt retention

METICORTELONE - 1, 2.5 and 5 mg. buff-colored tablets.

Schering

81-2-117

establishing
desired
eating
patterns



Obedrin®

and the 60-10-70 Basic Plan

In the development of good eating habits, there are three essentials: supervision by the physician, selective medication, and a balanced eating plan.^{1,2,3}

Obedrin contains:

- Methamphetamine for its anorexigenic and mood-lifting effects.
- Pentobarbital as a balancing agent, to guard against excitation.
- Vitamins B₁ and B₂ plus niacin to supplement the diet.
- Ascorbic acid to aid in the mobilization of tissue fluids.

Since Obedrin contains no artificial bulk, the hazards of impaction are avoided. The 60-10-70 Basic Plan provides for a balanced food intake, with sufficient protein and roughage.

Formula

Semoxydrine HCl (Methamphetamine HCl) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Thiamine HCl 0.5 mg.; Riboflavin 1 mg.; Niacin 5 mg.

1. Eisfelder, H.W.: Am. Pract. & Dig. Treat. 5:778 (Oct., 1954)

2. Sebrell, W.H., Jr.: J.A.M.A. 152:42 (May, 1953)

3. Sherman, R.J.: Medical Times, 82:107 (Feb., 1954)

Write for
60-10-70 Menu pads, weight charts
and samples of Obedrin

The S. E. MASSENGILL Company

Bristol, Tennessee

MODERN THERAPEUTICS

—Concluded from page 150a

Enema Unit Found Helpful in Rectal Clinic

To determine the incidence, diagnosis and treatment of the more common anorectal diseases as well as consider early detection of rectal cancer and pre-cancerous conditions, George S. Speare, M.D., Boston, analyzed 400 cases seen in the Rectal Clinic of the Brusich Medical Center, Cambridge. Just before examination of the patients, "when the rectum still contained fecal material, the Fleet disposable enema was found to be helpful," Dr. Speare reports in *New England Journal of Medicine* [225:377 (1956)].

**varicose and
indolent ulcers**
in this skin disorder
and many more

NEW Vioform®- Hydrocortisone Cream

antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform Hydrocortisone Cream, containing iodochlorhydroxyquin U.S.P. 3% and hydrocortisone (steric alcohol) U.S.P. 1% in a water-resistant base; tubes of 5 and 20 Gm.

VIOFORM® (iodochlorhydroxyquin U.S.P. OIBA)

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FORMULA:

Ergotamine
Tartrate 2.00 mg.
Caffeine
100.00 mg.
Hyoscyamine
.25 mg.
Pentobarbital
60.00 mg.



pentergot inserts

ASSURE **85%** EFFECTIVENESS
IN

MIGRAINE
TENSION
VASCULAR
HISTAMINIC CEPHALGIA

• ALSO AVAILABLE IN TABLET FORM

Literature and Samples on Request

Ryan, R. E.: J. Mo. M. A. (April) 1955

NEW

for your
Rheumatoid Arthritis
patient

for the objective symptoms
for the subjective distress

the first
and only
ataraxic-
corticoid

Ataraxoid*

prednisone and hydroxyzine

provides the anti-rheumatic,
anti-inflammatory action of the most
effective steroid, STERANE,[®] complemented by
the superior central tranquillizing effects of
ATARAX.[®] Minimal disturbance of fluid and
electrolyte metabolism; no mental fogging
or major toxicity in ataractic action.

FOR UNMATCHED RESPONSE AND
MANAGEMENT IN RHEUMATOID ARTHRITIS...
AS IN OTHER COLLAGEN DISEASES, BRONCHIAL
ASTHMA, INFLAMMATORY DERMATOSES,

Supplied: Each green, scored
ATARAXOID Tablet contains 5 mg. prednisone
(STERANE) and 10 mg. hydroxyzine hydrochloride (ATARAX). Bottles of 20 and 100.

PFIZER LABORATORIES

Division, Chas. Pfizer & Co., Inc.
Brooklyn 6, New York



TM trademark



HOW VAGISEC LIQUID PENETRATES RECESSES OF VAGINA AND EXPLODES TRICHOMONADS OFTEN MISSED

Photomicrograph of section of epithelium of normal vaginal mucosa, enlarged 750 times, shows uneven surface where trichomonads abide. VAGISEC penetrates surface and explodes organisms in hard-to-reach areas.

TOO OFTEN AN ORDINARY trichomonicide fails to cure vaginal trichomoniasis because it has little or no effect on parasites that are not on the surface.¹ Trichomonads burrowed deeply into the roughened mucosa survive and set up new foci of infection. In fact, even a few hidden trichomonads remaining after treatment can cause acute exacerbations. With VAGISEC® liquid and jelly you can overcome this most troublesome problem.

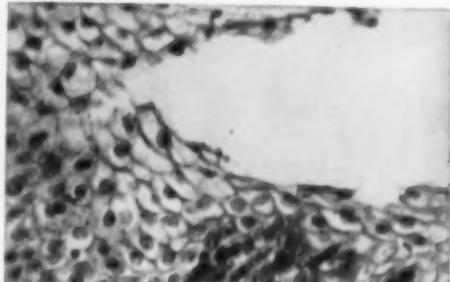
Penetrates thoroughly — This new and unique trichomonicide spreads out and wets the entire vaginal surface. It rapidly dissolves mucinous materials, fats and blood clots.¹ It penetrates the cellular debris that lines the vaginal walls and shields the parasites, reaching trichomonads deep in their hiding places. *Explodes trichomonads* — VAGISEC liquid actually explodes trichomonads within 15 seconds after douche contact.² Two surface-acting agents and one chelating agent combine to weaken the cell membrane, to remove the waxes and lipids, and to denature the protein. With its cell wall destroyed, the parasite imbibes water, swells and explodes. All this occurs within 15 seconds. Only scattered fragments remain.

Proves highly effective — With the Davis technique³ you can now rid patients of "trich," even cases that have resisted other treatment. VAGISEC liquid was developed as "Carlendacide," by Dr. Carl Henry Davis, M.D., noted gynecologist and author, and C. G. Grand, research physiologist.¹ Clinical trials by more than 150 physicians show better than 90 per cent success.⁸

Use liquid and jelly — In the Davis technique, VAGISEC liquid is used in office therapy. At the same time, liquid and jelly are prescribed for home use. They are well tolerated, leave no messy discharge or stain.

Office treatment — Expose vagina with speculum and wipe walls dry with cotton balls. Then wash thoroughly with a 1:100 dilution of VAGISEC liquid. Remove excess fluid with cotton balls. Dr. Davis recommends six treatments.

Home treatment — Patient douches with VAGISEC liquid every night or morning and then inserts VAGISEC jelly. Home treatment is continued through two menstrual periods, but omitted on office treatment days. Douching contraindicated in pregnancy.



One course of treatment — "If the treatment has been accomplished as directed," the patient "will have no flagellates provided the infection was limited to the vaginal canal . . . A few women have infected cervical, vestibular or urethral glands and require other types of treatment."⁴ Continued douching with VAGISEC liquid two or three times each week for eight to twelve weeks helps prevent re-infection.

Prevents coital re-infection — Infected husbands are "... a potential source of re-infection in wives successfully treated."⁵ Prescribe for your patients the protection afforded by Schmid high quality prophylactics. Specify the superior RAMSES® rubber prophylactic, transparent, tissue-thin, yet strong. If there is anxiety that rubber might dull sensation, prescribe XXXX (FOUREK)⁶ prophylactic skins, of natural animal membrane, pre-moistened.

Active Ingredients in VAGISEC Liquid: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra-acetate, Sodium diethyl sulfosuccinate. In addition, VAGISEC jelly contains Boric acid, Alcohol 5% by weight.

References: 1. Davis, C. H., and Grand, C. G.: Am. J. Obst. & Gynec. 68:559 (Aug.) 1954. 2. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955. 3. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955. 4. Davis, C. H. (Ed.): Gynecology and Obstetrics (revision), Hagerstown, W. F. Prior, 1955, vol. 3, chap. 7, pp. 23-33. 5. Lanceley, F., and McEntegart, M. C.: Lancet 1:668 (Apr. 4) 1953.

JULIUS SCHMID, INC.
gynecological division

423 West 55th Street, New York 19, N. Y.

VAGISEC, RAMSES and XXXX (FOUREK) are registered trade-marks of Julius Schmid, Inc.
Pat. App. for

INCREMIN*

LYSINE-VITAMIN SUPPLEMENT LEDERLE

outstanding
appetite
stimulant in

NEW TABLET FORM



Specify INCREMIN TABLETS to stimulate appetite in your problem-eater, underweight, or generally below-par patients of all ages.

INCREMIN TABLETS are highly palatable, caramel flavored. May be orally dissolved, chewed, or swallowed. Dosage only 1 tablet daily.

*Each INCREMIN
TABLET contains:*

L-Lysine	300 mg.
Vitamin B ₁₂	25 mcgm.
Thiamine (B ₁)	10 mg.
Pyridoxine (B ₆)	5 mg.

(INCREMIN Drops contain 1% alcohol)

Remember INCREMIN DROPS. Cherry flavor. Can be mixed with milk, milk formula, or other liquid. In 15 cc. polyethylene dropper bottle. Dosage: 0.5 to 1 cc. (10-20 drops) daily.



LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY
PEARL RIVER, NEW YORK

*Reg. U. S. Pat. Off.

contact dermatitis

in this skin disorder
and many more

NEW Vioform® Hydrocortisone Cream

antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform-Hydrocortisone Cream, containing iodochlorhydroxyquin U.S.P. 3% and hydrocortisone (free alcohol) U.S.P. 1% in a water-washable base, tubes of 9 and 20 Gm.

VIOFORM® (iodochlorhydroxyquin U.S.P. CIBA)

C I B A Summit, N.J. 07901

Diagnosis, Please!

ANSWER

(from page 25a)

ILEUS

Note almost uniform gaseous distensions of the stomach, small and all of large bowel to anal canal.

NEWS AND NOTES

Dr. Paul Dudley White and Dr. Norris J. Heckel, Honored

Dr. Paul Dudley White of Boston, internationally known cardiologist, has been honored as recipient of the 1956 Honor Award given by the Mississippi Valley Medical Society. Dr. White was formerly Clinical Prof. of Medicine, Harvard Medical School and has perhaps received every honor cardiologists have been able to give him. The honor is given from time to time to non-members of the Society "who have made distinguished contributions to clinical medicine."

Dr. Norris J. Heckel of Chicago, nationally known urologist, has been honored as recipient of the 1956 Distinguished Service Award given by the Mississippi Valley Medical Society. Dr. Heckel is Clinical Prof. of Urology, University of Illinois, President-Elect, Chicago Medical Society, Past-President (1954) and Chairman of the Board of Trustees of the Mississippi Valley Medical Society, and has been for many years very active in postgraduate medical education. The Distinguished Service Award is given annually to a member of the Society "who has rendered unusual and distinguished service to the medical profession."

—Continued on page 158a

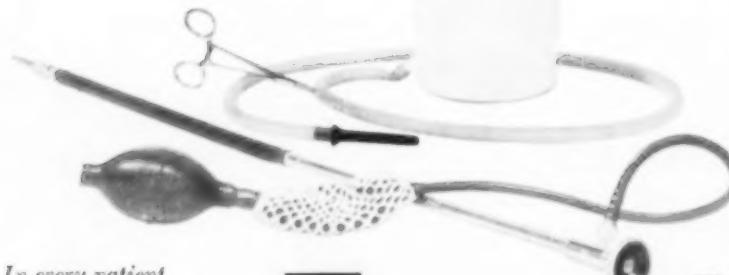
MEDICAL TIMES

... part of every illness

ANXIETY

is part of

GASTROINTESTINAL DISORDERS



*In every patient . . .
a valuable adjunct
to the customary therapy*

Supplied: Tablets, 400 mg.,
bottles of 50.

Usual Dose: 1 tablet, t.i.d.
anti-anxiety factor
with muscle-relaxing action



Philadelphia 1, Pa.

*Trademark

Equani^l *

MEPROBAMATE
(2-methyl-2-n-propyl-1,3-propanedid dicarbamate)
Licensed under U.S. Patent No. 2,728,720

NEWS AND NOTES

—Continued from page 156

The awards, comprising plaques and gold medals, were presented to Dr. White and Dr. Heckel by the President of the Society, Dr. Frank R. Peterson, formerly Prof. and Head of the Dept. of Surgery, State University of Iowa.

1956 Mississippi Valley Medical Society Fellowships Awarded

The annual awarding of Fellowships in the Mississippi Valley Medical Society was made by the President of the Society recently. These fellowships are given "in recognition of high qualifications, personal and professional, and of

established professional standing," final approval being made by a three-fourths vote of the Society's Board of Directors. The following active Society members were awarded fellowship certificates:

Robert S. Berghoff, M.D., F.A.C.P., Chicago.

Arthur S. Bristow, B.A., M.D., Princeton, Mo.

James Barrett Brown, M.D., F.A.C.S., St. Louis.

Victor B. Buhler, B.A., B.S., M.D., F.A.C.P., Kansas City, Mo.

Alvin H. Diehr, B.S., M.D., St. Louis.

Frank H. Fowler, B.M., M.D., Chicago.

Joel W. Hardesty, B.S., M.D., F.A.C.S., Hannibal, Mo.

—Continued on page 162a

POWER FOR PEAK THERAPEUTIC PERFORMANCE **EXPASMUS®**

Potentiated Mephenesin*

For relief of low back pain and other arthritic pain,
for release of tension accompanying pain.

- Relieves pain
- Soothes tension
- Relaxes muscle spasm

Each EXPASMUS tablet contains:
Dibenzyl succinate 195 mg., mephenesin 250 mg., salicylamide 100 mg.

*Mephenesin physiologically poten-
tiated with a smooth muscle relaxant
and analgesic . . . dibenzyl succinate

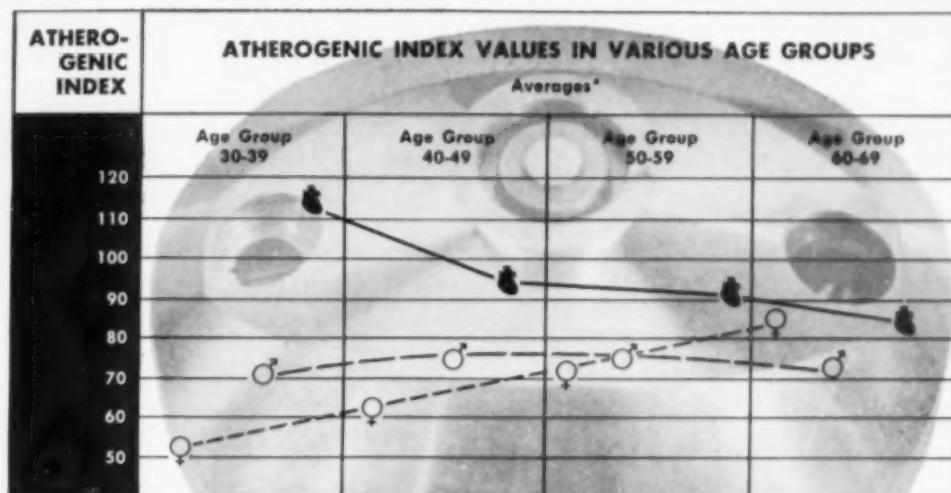
Dosage: 2 to 3 tablets 3 times daily to
12 tablets daily.

Supplied: Bottles of 100's tablets

Request reprints and samples.

Martin H. Smith Co. 131 East 23rd St., New York 10, New York

Manufacturers of ethical products for over half a century



*Averages derived from the following number of individuals in each group.

♀ Normal females:	188	140	80	9
♂ Normal males:	284	473	267	74
♂ Males with coronary heart disease:	9	91	148	61

Adapted from Gofman, J. W., and others: *Med. Med.*, 21:119 (June 15) 1953.



HOW A DIZZY SPIN SPILLS THE FACTS about coronary disease and atherosclerosis

Here's research in grand style at the terrific speed of 60,000 RPM, with centrifugal fields reaching 300,000 g's in the ultracentrifuge!

The object: identification and quantitation of the giant molecules among the complex lipoproteins of the blood.

Significance: elevation of certain blood lipids has been linked to the accelerated progression of coronary disease; disturbed lipid metabolism is suspected as a cause of atherosclerosis. Blood fractionation by ultracentrifuge has led to the development of atherogenic index values shown above: clinical atherogenic trends coincide with the atherogenic index obtained by this method.

Application: the ultracentrifuge is now being used to investigate the influence of dietary supplementation with "RG" Lecithin upon atherogenic index values in patients.

This is but one phase of the vast research on disease states which apparently are associated with lecithin insufficiencies. Lecithin, a constituent of all cells and organs, emulsifier, and lipid transport agent, is the focal point of attention.

Glidden's "RG" Lecithin is the only lecithin made specifically for medically indicated dietary purposes. It consists of 90% natural phosphatides in dry, free-flowing granules refined from soybeans.

"RG" Lecithin is well tolerated and readily utilized by the body. There are no contraindications. It is usually given in amounts of one teaspoonful t.i.d. (7.5 Gm.). (In current clinical research, amounts up to 60 Gm. daily are used.)

A preliminary report on lecithin in health and disease has been published and is available to physicians on request.



RG® LECITHIN

The Glidden Company • Chemurgy Div., 1825 N. Laramie Ave., Chicago 39, Ill.

A dietary phosphatide supplement.

a highlight in therapeutics

ACTHRO

Hydrochloride
Tetracycline HCl Lederle



acknowledged as competent

Spontaneously acknowledged by physicians everywhere as an outstanding therapeutic advance, repeatedly confirmed during more than three years of clinical usage, ACHROMYCIN® Tetracycline ranks among the foremost in its field today...judged on its exceptional effectiveness against a wide range of pathogens, prompt control of infections most commonly encountered in medical practice, low incidence of side reactions, minimal emergence of resistance.

ACHROMYCIN is available in 21 dosage forms—each with full tetracycline effect—to meet the exacting requirements of modern medicine.



LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

PHENAPHEN® PLUS

NOSE COLD

each coated tablet:

Phenacetin (3 gr.) . . .	194.0 mg.
Acetylsalicylic Acid (2½ gr.) . . .	162.0 mg.
Phenoxybital (½ gr.) . . .	16.2 mg.
Hyoscyamine Sulfate . . .	0.031 mg.
Propophenylpyridine Maleate . . .	12.5 mg.
Phenylephrine Hydrochloride . . .	10.0 mg.

Robins

**chronic infectious
dermatitis**

in this skin disorder
and many more

**NEW Vioform®
Hydrocortisone
Cream**

antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform-Hydrocortisone Cream, containing iodochlorhydroxyquin U.S.P. 3% and hydrocortisone (free alcohol) U.S.P. 1% in a water-washable base; tubes of 5 and 20 Gm.
VIOFORM® (iodochlorhydroxyquin U.S.P. CIBA)

C I B A SUMMIT, N.J. 07901

NEWS AND NOTES

—Continued from page 158a

Carroll P. Hungate, B.A., B.S., M.D., Kansas City, Mo.

Ralph McReynolds, B.P., B.S., M.D., F.A.C.P., Quincy, Ill.

G. Henry Mundt, M.D., F.A.C.S., Chicago.

M. Pinson Neal, M.D., Columbia, Mo.

Frank R. Peterson, B.S., M.D., F.A.C.S., Cedar Rapids, Ia.

Caesar Portes, B.S., M.D., Chicago.

C. Paul White, M.D., Kewanee, Ill.

Three U. S. Medical Journals Honored

The American Medical Writers' Association announced the recipients of the 1956 Honor Awards for Distinguished Service in Medical Journalism; these awards went to the following United States medical periodicals:

The *Journals of the Medical Association of Georgia*, published monthly by the Medical Association of Georgia, is the recipient of the award for general medical periodicals with a circulation of less than 3,000.

The *Medical Clinics of North America* is the recipient of the award for specialty medical periodicals.

Broome County Medicine, published monthly by the Broome County Medical Society, Binghamton, N.Y., is the recipient of the award for periodicals of county and city medical societies who have an executive secretary.

The awards, each consisting of plaque, were accepted by the respective editors, the presentations being made by Dr. Richard M. Hewitt, President

—Continued on page 164a

MEDICAL TIMES



for more than a decade...

trichotine®

...proved effective in vulvovaginal therapy

Trichotine—more than a decade ago—pioneered in newer, more effective vulvovaginal therapy by combining the multiple advantages of sodium lauryl sulphate with the recognized values of such specific or adjunctive agents as sodium perborate, sodium borate, thymol, eucalyptol, menthol and methyl salicylate.

Extensive clinical experience has proved its efficacy in trichomonas vaginalis vaginitis, subacute and chronic cervicitis, vulvovaginal moniliasis, non-specific leukorrhea, and pruritus vulvae.

Trihotone douches may be prescribed as often as indicated—excellent also for postmenstrual or postcoital hygiene. Concentrated solutions are useful for clean-up or swab treatments in office. Hot packs are often quickly effective in pruritus vulvae.

A DETERGENT · A BACTERICIDE AND FUNGICIDE · AN ANTIPRURITIC

AN AID TO EPITHELIALIZATION · AN AESTHETIC AND PSYCHOSOMATIC ADJUNCT

Sample and literature on request Available in jars of 5, 12 and 20 oz.

the fesler co., inc., 375 Fairfield Ave., Stamford, Conn.

mild mucus solvent
for nose and throat
ALKALOL

write for sample
The Alkalol Company, Taunton 28, Mass.

**impetiginized
eczema**
in this skin disorder
and many more

**NEW Vioform®
Hydrocortisone
Cream**

antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform-Hydrocortisone Cream, containing iodochlorhydroxyquin U.S.P. 3% and hydrocortisone (true alcohol) U.S.P. 1% in a water-washable base; tubes of 5 and 20 Gm.
VIOFORM® (iodochlorhydroxyquin U.S.P. CIBA)

C I B A Summit, N. J. 21600

NEWS AND NOTES

—Continued from page 162a

of the Association. The awards, which are akin to the Pulitzer Prizes in Journalism given to newspapers, are presented annually "for accuracy, clarity, conciseness and newness of information in articles, editorials, and other material; for excellence of design, printing and illustrations, and for distinguished service to the medical profession" rendered by United States and Canadian medical periodicals in a number of classifications.

As a Physician Sees Easter Island

As a protective measure in the matter of disease susceptibility of the natives, the Chilean Government has placed certain restrictions on Easter Island; no outsiders may settle there; no visitors are allowed without Chilean permission, and natives may not leave the Island. The advantages of these regulations from a physiologic standpoint are obvious, but their enforced isolation would seem to be, at least in part, responsible for a discontented and generally confused outlook amounting to a neurosis of frustration among the entire population of less than 300. Added to this is the complete lack of any sort of community occupation or activity to occupy the time and minds of the natives; services held once a week by a Capuchin monk, and an annual visit of a Chilean cruiser to the dot of land in the center of the Pacific Ocean are the sole emotional outlets for the inhabitants.

Aside from a neurotic frame of mind, the real problem on the Island is leprosy.

—Continued on page 169a

MEDICAL TIMES

1 TAB.

VERACOLATE®

THE PHYSIOLOGICALLY-ACTIVE LAXATIVE

T.I.D.

EASE OF EVACUATION IS OF PRIME IMPORT-

TANCE TO YOUR CONSTIPATED PATIENTS.

VERACOLATE, 1 TABLET T.I.D., HAS A
GENTLE, NON-IRRITATING ACTION, EN-

HANCES BILE FLOW THROUGH THE
HEPATO-INTESTINAL TRACT, THUS, FAT

DIGESTION AND FOOD ABSORPTION ARE
AIDED, WHILE NORMAL BOWEL HABITS

ARE RE-ESTABLISHED—SAFELY AND
EFFECTIVELY.

STANDARD LABORATORIES, INC. • MORRIS PLAINS, N.J.

IN ACNE



Acne patient BEFORE treatment.



Acne patient AFTER 10 weeks therapeutic washing of the skin with Fostex.

RESULTS YOU CAN SEE



CREAM

CAKE

for therapeutic washing of skin in acute acne. Also as a therapeutic shampoo in associated oily scalp and dandruff.

for therapeutic washing of skin after acute phase of acne is controlled. Maintains skin dry and comedone free.

Fostex® CREAM / CAKE

In acne, Fostex Cream and Fostex Cake degrease and degerm the skin...unblock pores...remove blackheads and help prevent abscess formation. They're well tolerated and easy to use. All the patient does is stop using soap...start washing with Fostex.

Fostex effectiveness in acne is provided by Sebulytic,^{*} a new combination of surface active cleansing and wetting agents with remarkable antiseborrheic, keratolytic and antibacterial action, enhanced by sulfur 2%, salicylic acid 2%, and hexachlorophene 1%.

Fostex Cream 4.5 oz. jar. Fostex Cake in bar form.

Foster does not contain selenium.

^{*}Sodium lauryl sulfacetate, sodium alkyl aryl polyether sulfonate, sodium dioctyl sulfosuccinate

Write for samples and literature.

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PHARMACEUTICALS

Division of Foster-Milburn Co.

467 Dewitt Street

Buffalo 13, New York

**"'ANTABUSE' appears to be the most effective
means of treating the chronic alcoholic..."**

Smith, J. A.: Postgrad. Med. 16:316 (Oct., 1954).

A "CHEMICAL FENCE" FOR THE ALCOHOLIC. "Antabuse" helps the alcoholic resist his compulsive craving for alcohol, and enables him "to respond more readily to measures aimed at the correction of underlying personality disorders." Bone, J. A.: J. Nat. M. A. 46:245 (July) 1954.

"Antabuse"® brand of DISULFIRAM (tetraethylthiuram disulfide) is supplied in 0.5 Gm. tablets, bottles of 50 and 1,000.

Complete information available on request



Ayerst Laboratories • New York, N. Y. • Montreal, Canada

5546

**Gives fast relief of
nasal congestion**

Novahistine works better than antihistamines alone. The combined action of a vasoconstrictor with an antihistaminic drug provides marked nasal decongestion, inhibits excessive secretion... combats allergic reactions. Oral dosage avoids patient misuse of nose drops, sprays and inhalants... eliminates rebound congestion. Novahistine will not cause jitters or insomnia.

Each Novahistine Tablet or teaspoonful of Elixir provides 5.0 mg. of phenylephrine HCl and 12.5 mg. of prophenylpyridamine maleate. For patients who need greater vasoconstriction, Novahistine Fortis Capsules, Novahistine with APC and Novahistine with Penicillin Capsules contain twice the amount of phenylephrine.



*“unlock” the
closed-up
nose...*

orally

WITH

Novahistine®

IN COLDs...

STINNITIS...

RHINITIS

Pitman-Moore Company
Division of Allied Laboratories, Inc.

Indianapolis 6, Indiana



**when colds
are complicated by
useless, exhausting
coughs**

Novahistine-DH*

*promptly controls coughs
and clears obstructed air passages*

Each teaspoonful (5 cc.) of this palatable grape-flavored elixir contains:
Phenylephrine hydrochloride 10 mg.
Prophenpyridamine maleate 12.5 mg.
Dihydrocodeinone bitartrate 1.66 mg.
Warning: may be habit forming
Chloroform (approximately) 13.5 mg.
L-Menthol 1.0 mg.
(Alcohol content, 10%;
sugar, 33½ %)

*Trademark

Pitman-Moore Company

*Division of Allied Laboratories, Inc.
Indianapolis 6, Indiana*

NEWS AND NOTES

—Continued from page 164a

In 1934, a leprosarium was constructed, but none of the 42 inmates received any sort of treatment, and no examination of the Island's population of 411 persons was made. Antileprosy measures were not adopted until 1938 when a Naval physician was assigned to the Island. A preparation of chaulmoogra oil was used, and an examination made of bacillus carriers. Since 1952, contraben has been used with very beneficial results.

At the time of his visit in 1954, Dr. J. F. Montague of New York, writing in *International Record of Medicine* [169: 506 (1956)] reports that 70 out of the population of 752 persons were definite lepers, but fully three times that number appeared to be incipient lepers. There is no means of enforcing health regulations; the natives are both apathetic and indifferent and refuse to come for examination and adequate treatment. Both inside and outside of the leprosarium the natives intermingle freely.

This lax and indifferent attitude on the part of natives and of officials appeared to be in marked contrast to the

—Continued on page 174a

"MEDIQUIZ" ANSWERS

(from page 59a)

- 1(D), 2(B), 3(D), 4(D), 5(A), 6(A),
- 7(B), 8(D), 9(C), 10(C), 11(B),
- 12(A), 13(D), 14(B), 15(C).



**"Mediatric" will help make the "senior" years
more pleasant and enjoyable.**

"Mediatric" is specially formulated to counteract the adverse influence of declining gonadal function, nutritional inadequacy and emotional instability.

"Mediatric" contains estrogen and androgen in amounts that will effectively supplement reduced gonadal hormone production; nutritional supplements carefully selected to meet the needs of the patient; and a mild antidepressant to promote a brighter mental outlook. Available in tablets, capsules, and liquid.

"MEDIATRIC"[®]

Steroid-Nutritional Compound

IN PREVENTIVE GERIATRICS



Ayerst Laboratories • New York, N. Y. • Montreal, Canada

In Angina Pectoris
*when every
moment counts*
Relief in
10 to 30 Seconds



- More rapid relief than from sublingual nitroglycerin because pulmonary portal of entry affords most direct route . . . only the single-cell barrier of alveolar lining to cross.
- Each measured dose of Medihaler-Nitro delivers 0.25 mg. of octyl nitrite, equivalent in vasodilating action to 1/100 gr. nitroglycerin.
- In contrast to amyl nitrite, Medihaler-Nitro has no irritating odor . . . is virtually free from side actions . . . and vasodilating effect lasts longer.
- Medication and Adapter fit into neat plastic case, convenient for pocket or purse.
- Economical . . . each 10 cc. bottle delivers 200 metered doses . . . no deterioration with age.

Note: First prescription should include medication and Medihaler Oral Adapter.



Pentoxylon®

Reduces incidence and severity of anginal attacks. Each long-acting tablet contains pentaerythritol tetranitrate (PETN) 10 mg. and Rauwoloid® (alseroxylon) 1 mg. Patients on Pentoxylon suffer fewer anginal attacks.

Riker
LOS ANGELES

Requisites for EFFECTIVE LAXATION



PHOSPHO-SODA (*Fleet*) . . .
gentle, prompt, thorough and a
laxative of choice for over 60 years.

Taken on an Empty Stomach...
at least 30 minutes before any meal,
but preferably before breakfast.

Amplly Diluted with Water...
Mix required dose with one half glass
of cold water, follow with additional water.

SUGGESTED DOSAGE As a mild eliminant, two
teaspoonfuls before a meal. For more pronounced
hydragogue action, four teaspoonfuls before breakfast.

Children: Ten years or older, one half the adult dose;
five to ten years, one quarter the adult dose.

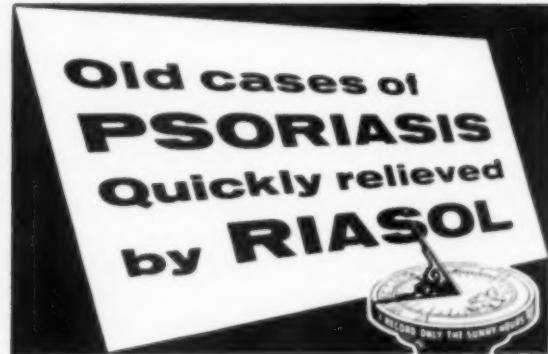
Phospho-Soda (*Fleet*) is a solution containing
per 100 cc., Sodium Biphosphate 48 Gm. and Sodium
Phosphate 18 Gm.

*Write for liberal professional samples and literature
describing indications and dosages.*

PHOSPHO-SODA

(*Fleet*)

C. B. Fleet Co., Inc., Lynchburg, Virginia
Makers of the Fleet® Enema Disposable Unit.



"I have had psoriasis for 25 years," wrote a physician who used RIASOL successfully on himself. "I may say that no treatment or no product has given me the satisfaction that RIASOL has."

The value of RIASOL is proved by quick results in old cases of psoriasis where other treatments have failed. In a series of 21 cases of psoriasis treated with RIASOL, the average duration of the disease was 8 years. Yet the average period in which the skin lesions cleared was only 8 weeks.

One patient suffered for 30 years without remissions. The skin patches covered his chest, abdomen, back, thighs, legs, neck, arms, hands and face. After 24 weeks of treatment with RIASOL, his condition was greatly improved. The scales had disappeared and the redness and elevation of the lesions were greatly reduced.

RIASOL contains 0.45% mercury chemically combined with soaps, 0.5% phenol and 0.75% cresol in a washable, non-staining, odorless vehicle.

Apply daily after a mild soap bath and thorough drying. A thin, invisible, economical film suffices. No bandages required. After one week, adjust to patient's progress.

Ethically promoted RIASOL is supplied in 4 and 8 fld. oz. bottles at pharmacies or direct.



BEFORE USE OF RIASOL



AFTER USE OF RIASOL



Test RIASOL Yourself

May we send you professional literature and generous clinical package
of RIASOL. No obligation. Write

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12850 Mansfield Avenue, Detroit 27, Michigan

RIASOL FOR PSORIASIS

NEWS AND NOTES

—Continued from page 169a

opinions formerly held by the medical profession who believed leprosy to be highly infectious and highly contagious. Especially after his visit to Easter Island, the author is unable to accept the views set forth in the Resolutions of the *International Congress on Leprosy*, sponsored by the Sovereign Military Order of Malta, in April 1956, which read, in part: "... leprosy is a disease of low contagiousness . . . patients afflicted (should) be treated as are those suffering from other infectious diseases, without any other special regu-

lations whatsoever; and that, in consequence, all discriminatory laws should be abolished."

Procedure to Reduce Baby Mix-ups Suggested

A procedure which would reduce the problem of baby mix-ups in hospital nurseries "to the vanishing point" was described in an editorial in a recent issue of the *Journal of the A.M.A.*

Although confusion sometimes leads to giving the wrong baby a harmless prescription, it rarely leads to the actual exchange of babies, the editorial said. However, this can still happen under present identification methods.

Confusion sometimes arises because

Effective analgesic, antipruritic action in Otic Conditions



otodyne®

- ... Rapid, intense and prolonged analgesic action with the complemental anesthetics, zolamine and Eucupin.®
- ... Prompt, sustained relief in pruritus of the external canal.
- ... Nonirritating—nonsensitizing.

Supplied in 15 cc.
dropper bottles

White Laboratories, Inc., Kenilworth, N.J.

two mothers in the hospital at the same time have the same surname; because a single identification becomes detached from the baby, or because parents "get to wondering after they leave the hospital how the attendants maintained the identity of the babies," the editorial said.

Because photographs, footprints, handprints and fingerprints cannot be considered reliable as the sole means of identifying the newborn infant, the A.M.A. advocates that hospitals adopt the following procedure for identifying newborn babies.

Each baby should be marked in the delivery room with two identification items which carry the mother's full

name, date and time of birth and some correlation with the mother such as her fingerprint. Each time the baby comes to the mother, she should be informed that it is her responsibility to identify her baby by the marking, the editorial said.

When the baby and mother are discharged, one of the bands should be removed, preferably by the mother. After she has properly identified her baby, the removed identification should be pasted to the baby's chart. The mother should then acknowledge in writing that this is how her baby was marked and that she identified it as hers.

—Continued on following page

For Middle and External Ear Infections

otomide®

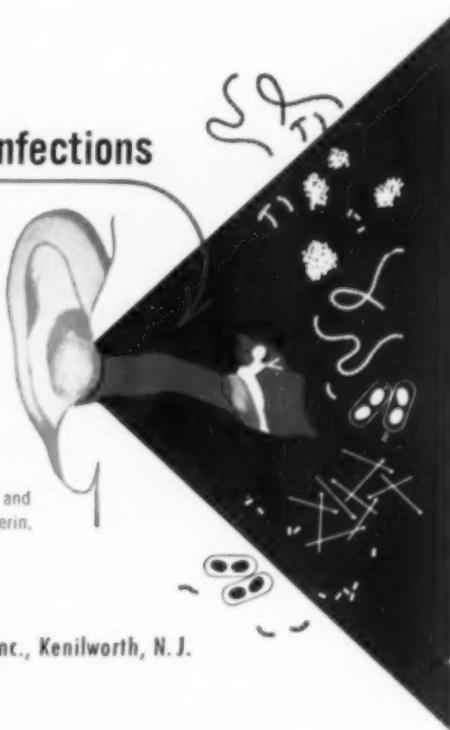
Chemical debridement—*infection site rapidly cleansed—odors reduced, and waste material removed.*

High antibacterial and antifungal activity against common pathogens.

A stable solution of Carbamide (Urea), Sulfanilamide and Anhydrous Chlorobutanol in high specific gravity glycerin.

Supplied in 15 cc.
dropper bottles

White Laboratories, Inc., Kenilworth, N.J.



in very special cases
a very superior brandy...
specify

HENNESSY
COGNAC BRANDY

84 Proof | Schieffelin & Co., New York



**infantile
eczema**
in this skin disorder
and many more

**NEW Vioform®
Hydrocortisone
Cream**

antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform-Hydrocortisone Cream, containing Iodoacetylhydroxyquin U.S.P. 3% and hydrocortisone (free alcohol) U.S.P. 1% in a water-washable base; tubes of 5 and 20 Gm.
VIOFORM® (Iodoacetylhydroxyquin U.S.P. CIBA)

C I B A Summit, N. J. Division of Ciba

NEWS AND NOTES

—Continued from preceding page

Offensive Odors

Too frequently in the postoperative care of patients whose conditions are accompanied by offensive odors, this factor which is the cause of severe mental disturbance in the patient and may make his proximity almost unendurable, is completely ignored. The effect on other patients in a ward, on hospital personnel, or on members of the family in a home need scarcely be stressed. One physician reported the necessity of giving a "colectomy" patient the last appointment of the day, since traces of his odor remained for an hour or two.

An intensive search for a means of odor control started with ileostomy bags. Available powders, solutions, tablets and capsules were equally inadequate. Highly commercialized and exploited chlorophyll products were disregarded for that reason. However, an authoritative article in a top-ranking medical journal induced Golden and Burke of East Orange, New Jersey, to accord chlorophyll serious consideration. The results appeared in a recent issue of *Gastroenterology*.

Highly-purified, high-potency chlorophyll preparations were made available as capsules, as liquid and as tablets. Initial results were encouraging, but several patients complained that using the tablet merely replaced one odor with another. A change of the binder used removed the second odor and allowed the tablets to eliminate completely the offensive odor. Both solution and capsules were abandoned in favor of the

—Continued on page 178a

MEDICAL TIMES



SYMPTOMATIC
RELIEF...PLUS!

ACHROCIDIN*

TETRACYCLINE-ANTIHISTAMINE-ANALGESIC COMPOUND

ACHROCIDIN is particularly valuable in treating acute respiratory infections during epidemics or when questionable middle ear, pulmonary, nephritic, or rheumatic signs are present.

ACHROCIDIN offers early, potent therapy against such disabling complications as otitis media, sinusitis, bronchitis to which the patient may be highly vulnerable at this time.

Included in the comprehensive ACHROCIDIN formulation are the analgesic components recommended for prompt relief of common cold symptoms.

Adult dosage for ACHROCIDIN Tablets and new, caffeine-free ACHROCIDIN Syrup is two tablets or teaspoonfuls of syrup three or four times daily. Dosage for children according to weight and age.

Available on Prescription Only

Each tablet contains:

ACHROMYCIN®		Caffeine	30 mg.
Tetracycline	125 mg.	Salicylamide	150 mg.
Phenacetin	120 mg.	Chlorothen Citrate	25 mg.

*Tablets
and
Syrup*



LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY
PEARL RIVER, NEW YORK

NEWS AND NOTES

—Continued from page 178a

superiority of the tablet form. Surprisingly, oral ingestion or direct application to the bag were equally effective. Oral dosage varied from one 100-mg. tablet a day to two tablets three times daily.

With these dramatic results, a means for deodorization was extended to colostomy and cecostomy patients, cases of terminal neoplasms, the various types of ulcers and fistulas, extensive body surface infections, and osteomyelitis. In wounds, the chlorophyll solution was instilled into the dressing, but in some instances the affected area was inacces-

—Continued on page 182a

anogenital pruritus

in this skin disorder
and many more

NEW Vioform® Hydrocortisone Cream

antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform-Hydrocortisone Cream, containing iodochlorhydroxyquin U.S.P. 3% and hydrocortisone (free alcohol) U.S.P. 1% in a water-washable base; tubes of 5 and 20 Gm.

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C I B A Summit, N.J. 07901



For NERVOUS indigestion ... and G-I SPASM

Convertin-H fortifies the important gastric and pancreatic enzymes for efficient digestion of proteins, fats, and carbohydrates.

Convertin-H tablets

Fortified digestive enzymes

WITH ANTISPASMODIC

COMPOSITION: Each Convertin-H tablet contains:

In sugar-coated outer layer Homatropine Methylbromide 2.5 mg.

Betaine Hydrochloride 130.0 mg.

(providing 5 minimis diluted Hydrochloric Acid, U.S.P.)

Oleoresin Ginger 1/600 gr.

In enteric-coated inner core Pancreatin (1 X U.S.P.) 42.5 mg.

(equiv. to Pancreatin U.S.P. 250 mg.)

Desoxycholic Acid 50.0 mg.

DOSE: One or two tablets with or just after meals.

SUPPLIED: In bottles of 84 and 500 tablets.

Send for Samples



B. F. ASCHER & COMPANY, INC. Ethical Medicinals • Kansas City, Mo.



Comforting Warmth

in cold weather complaints

tonsillitis - bronchitis

The warming relief provided by Numotizine in tonsillitis, bronchitis and related respiratory conditions is welcomed by the patient, helpful to convalescence.

An application of Numotizine causes vasodilation and produces analgesia to assist decongestion and relax the patient, thereby hastening recovery.

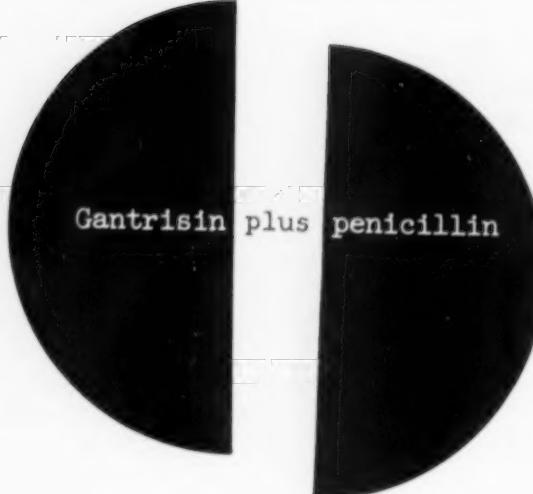
Numotizine is easy to apply, requires no heating, and relieves for eight or more hours without changing. It is compatible with the use of such specific medication as may be indicated.



NUMOTIZINE®
CATAPLASM-PLUS

Supplied in 4, 8, 15 and 30-oz. jars.

HOBART LABORATORIES, INC., CHICAGO 10, ILLINOIS



Gantrisin plus penicillin

Gantricillin is Gantrisin plus penicillin in a single tablet. For severe infections, Gantricillin-300; for mild infections, Gantricillin (100); for pediatric infections, Gantricillin (acetyl)-200 suspension.

Gantricillin® Gantrisin® - brand of sulfisoxazole



original research in medicine and chemistry

When Soap is Contraindicated

...Cleanse Sensitive Skin

Effectively without Irritation

Acidolate®

a non-lathering sulfated oil detergent, is the hypoallergenic skin cleanser of choice when a liquid emulsifying agent of low surface tension is required. It is an excellent cleansing agent in acne vulgaris, for removal of ointment and greases from the skin, hair or wounds, and as a shampoo for ringworm of the scalp.

Supplied: 8 fluid ounce and 1 gallon bottles.



Dermolate®

"Milder than the mildest castile," a nonirritating detergent in cake form, is an ideal cleanser where even the mildest soap is poorly tolerated. It is ideally suited for routine use as a hypoallergenic skin cleanser; especially recommended for normal skin care of infants and young children.

Supplied: 4 ounce cakes.



Terjolate®

a household cleanser designed for use with Acidolate and Dermolate, is neither irritating nor sensitizing—it is an unusually effective cleanser for all household purposes.

Supplied: 8 and 16 fluid ounce and 1 gallon bottles.



White

WHITE LABORATORIES, INC.
KENILWORTH, N. J.

Sinus Pain

Relief of the bewildering pain associated with congestion in these cavities quickly accomplished with



The cause, plugs of inspissated mucus lodged in the sinus openings, are easily removed—promoting necessary VENTILATION and DRAINAGE. Clinical experimentation has proven its safety and efficacy for over 40 years! Write for Special Trial Offer.

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SYPHON, INC.**
MONTCLAIR, N. J.



**contact
dermatitis**
in this skin disorder
and many more

NEW Vioform® Hydrocortisone Cream

antibacterial
antifungal
anti-inflammatory
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SUPPLIED: Vioform Hydrocortisone Cream, containing Iodochlorhydroxyquin U. S. P. 3% and hydrocortisone (free alcohol) U. S. P. 1% in a water-washable base; tubes of 5 and 20 Gm.

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C I B A Summit, N. J. 07901

NEWS AND NOTES

—Continued from page 178a

sible to topical deodorization, and this led to the most surprising observation in the study. The chlorophyll tablets administered orally eliminated all odor from the external lesions.

The observations were made on a total of 50 patients whose conditions were accompanied by almost unbearable odor. Results were consistently excellent with three exceptions: in one mentally incompetent patient and in two patients with diabetes. In the light of these impressive results, the authors urge that the far-reaching complications of offensive odors be given more consideration and specific treatment.

Stanford's Crismon To Head Heart Research

Professor Jefferson M. Crismon, executive head of Stanford Medical School's Department of Physiology, has been named 1956-57 chairman of the Research Committee of the American Heart Association.

Dr. Crismon is an authority on blood circulation, a field in which he has carried on research for more than ten years. He has made important contributions to the study of frostbite and hypothermia.

Aviation Suit Adapted for Hospital Use

The G-suit or antigravity suit which is standard wearing apparel for pilots of high-speed planes has been modified for use during certain types of surgery.

G-suits are worn by flyers to prevent

—Continued on page 184a

An ideal
family vitamin-mineral
formula—

GEVRAL*

VITAMIN-MINERAL SUPPLEMENT LEDERLE



dry filled sealed capsules



LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK
"Reg. U. S. Pat. Off."

Lederle

Since daily dosage is an important part of supplementation, GEVRAL is now packaged in a special JUBILEE JAR—an attractive container of 100 capsules for the family dining table. Specify GEVRAL. Your patients will remember to take their "vitamins" regularly when they have the JUBILEE JAR before them at mealtime.

GEVRAL is aptly formulated to meet the broad vitamin-mineral requirements of daily life. Balanced, comprehensive, GEVRAL provides 14 vitamins, 11 minerals and Purified Intrinsic Factor Concentrate. Dosage is only one *dry-filled* capsule daily.

Each GEVRAL capsule contains:

Vitamin A	5000 U.S.P. Units
Vitamin D	500 U.S.P. Units
Vitamin B ₁₂	1 mcgm.
Thiamine Mononitrate (B ₁)	5 mg.
Riboflavin (B ₂)	5 mg.
Niacinamide	15 mg.
Folic Acid	1 mg.
Pyridoxine HCl (B ₆)	0.5 mg.
Ca Pantothenate	5 mg.
Choline Bitartrate	50 mg.
Inositol	50 mg.
Ascorbic Acid (C)	50 mg.
Vitamin E (as tocopherol acetates)	10 I. U.
l-Lysine Monohydrochloride	25 mg.
Rutin	25 mg.
Purified Intrinsic Factor Concentrate	0.5 mg.
Iron (as FeSO ₄)	10 mg.
Iodine (as KI)	0.5 mg.
Calcium (as CaHPO ₄)	145 mg.
Phosphorus (as CaHPO ₄)	110 mg.
Boron (as Na ₂ B ₁₀ O ₁₈ • 10H ₂ O)	0.1 mg.
Copper (as CuO)	1 mg.
Fluorine (as CaF ₂)	0.1 mg.
Manganese (as MnO ₂)	1 mg.
Magnesium (as MgO)	1 mg.
Potassium (as K ₂ SO ₄)	5 mg.
Zinc (as ZnO)	0.5 mg.

NEWS AND NOTES

—Continued from page 182a

blackouts that occur when they pull their planes out of fast dives. The standard aviation garment consists of inflatable leggings and an abdominal binder, which, by constricting the lower part of the body, prevent pooling of blood.

Drs. W. James Gardner and Donald F. Dohn used the aviation garment to prevent dangerous drops in blood pressure during certain head and neck operations carried out with the patient in a sitting position.

Because they found the standard garment too unwieldy and difficult to put on the patient, they devised a simpler garment. It is two sheets of plastic sealed at the edges to form a large inflatable bladder. This is placed beneath the patient, the edges are folded over so as to enclose him from the waist to the ankles and is drawn snug by lacing. It may be inflated from a tank of gas if there is a sudden drop in blood pressure.

The new G-suit has an advantage over the aviation suit in that it also compresses the pelvic area and buttocks. In addition to using the suit during head

—Continued on page 186a

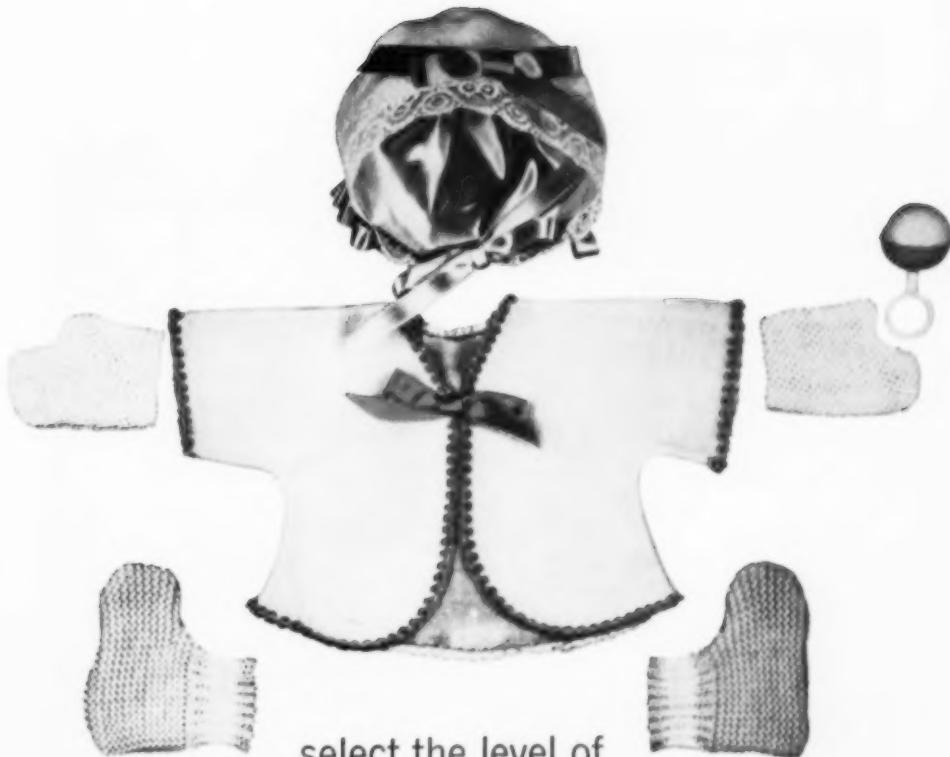
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Aspergum gives immediate
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keeps throat surfaces
A welcome continuation to
throat irritations and
especially after
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3 basic vitamins...A, D, C



unbreakable
"Safti-Dropper"

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B₂ and niacinamide

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10 nutritionally significant vitamins,
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amide, biotin, pantothenic acid, B₆
and stable B₁₂

- highly stable—refrigeration not required
 - readily accepted—exceptionally pleasant flavor, no unpleasant aftertaste
 - full dosage assured—can be dropped directly into baby's mouth
- In 15 cc., 30 cc. and economical 50 cc. bottles
with calibrated plastic 'Safti-Dropper'

varicose and indolent ulcers

in this skin disorder
and many more

NEW Vioform® Hydrocortisone Cream

antibacterial
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anti-inflammatory
antipruritic

SUPPLIED: Vioform Hydrocortisone Cream, containing iodochlorhydroxyquin U.S.P. 3% and hydrocortisone (free alcohol) U.S.P. 1% in a water-washable base; tubes of 5 and 20 gm.

VIOFORM® (iodochlorhydroxyquin U.S.P. CIBA)

C I B A Summit, N.J. 07901

NEWS AND NOTES

—Continued from page 184a

and neck operations, the doctors have used it to combat shock resulting from hemorrhage.

Their idea is not new, the doctors said in a recent issue of the *Journal of the American Medical Association*. A pneumatic suit, made of a double layer of rubber and inflated with a bicycle pump, was described by G. W. Crile in 1903. Its use was plagued by failures because the suit had a tendency to sprung leaks.

Drs. Gardner and Dohn are from the Cleveland Clinic Foundation and the Frank E. Bunts Educational Institute.

Jet-Atomic Flight Problems Highlight Aero Medical Association 1957 Meeting

Medicine in the jet-atomic age of flight will be the central theme of the 28th annual meeting of the Aero Medical Association at the Shirley Savoy Hotel in Denver, May 6-8, 1957, under the presidency of Dr. Jan H. Tillisch, Rochester, Minnesota, medical director of Northwest Airlines.

The scientific program will include reports on emergency escape from high performance aircraft, new developments in airline passenger comfort and safety, and current research in manned space satellites, Dr. Tillisch announced. The American Board of Preventive Medicine will conduct examinations for certification in aviation medicine in Denver from May 3 to 5.

Special events include the third Louis H. Bauer Lecture, established in 1954

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MEDICAL TIMES

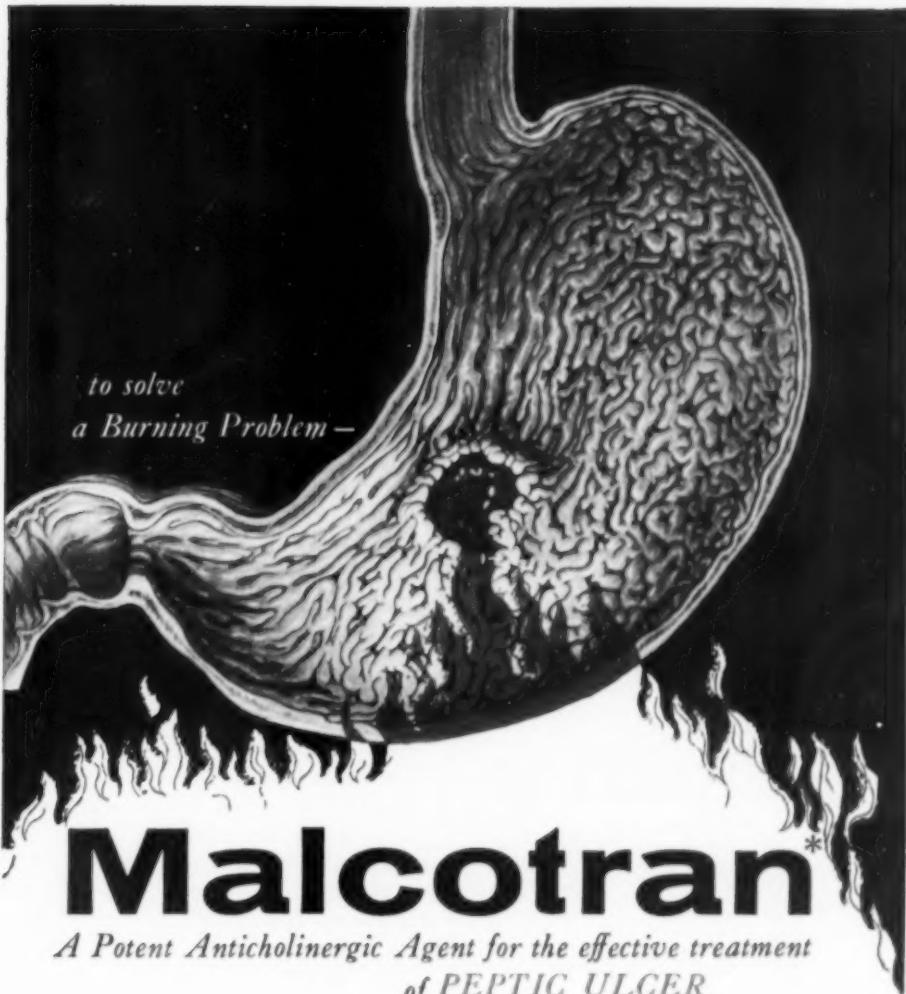
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Malcotran*

*A Potent Anticholinergic Agent for the effective treatment
of PEPTIC ULCER*

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stimulation of the biliary, intestinal and

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AVAILABLE —

Malcotran 10 mg., scored green tablet
Malcotran (10 mg.) with Phenobarbital (8 mg.)
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each coated tablet:

Phenacetin (3 gr.) . . .	194.0 mg.
Acetylsalicylic Acid (2½ gr.) . . .	162.0 mg.
Phenobarbital (¼ gr.) . . .	16.2 mg.
Hyoscyamine Sulfate . . .	0.031 mg.
Prophenpyridamine Maleate . . .	12.5 mg.
Phenylephrine Hydrochloride . . .	10.0 mg.

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for
oral therapy
in psoriasis

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NEWS AND NOTES

—Continued from page 186a

as a living tribute to the Association's founder and first president, presentation of the Lyster, Longacre, and Tuttle Awards, the highest honors in aviation medicine, and an extensive display of scientific exhibits. The president-elect, Dr. Ashton Graybiel, research director of the U. S. Naval School of Aviation Medicine, Pensacola, Florida, will be installed in office at the annual banquet on May 8.

Stanford Establishes Cancer Chemotherapy Lab.

A new Cancer Chemotherapy Laboratory, which also serves as headquarters for the Pharmacology Department of Stanford Medical School, has been established on the University's Palo Alto campus.

The Pharmacology move marks the first step toward consolidation of Medical School facilities in San Francisco with the University proper, it was pointed out by Dean Windsor Cutting. By 1959 the entire School is expected to be housed in a \$22,000,000 medical center soon to be started on the campus.

Professor Avram Goldstein, who heads the department, will direct the new campus research facility. It was built and equipped with the aid of \$50,000 from the National Cancer Institute of the U. S. Public Health Service, plus \$10,000 from University funds.

A radioisotope laboratory also has been set up in the new space with gifts totalling \$6,700 from the Ladies Auxiliary of the California Department of

—Concluded on page 192a

For Infectious Diarrhea

THE FULL ATTACK...

Antibacterial

Adsorptive

Protective

Streptomagma combats bacterial diarrhea with multiple forces. It offers dihydrostreptomycin to control the streptomycin-susceptible organisms. Simultaneously, its pectin, kaolin, and alumina gel soothe the irritated bowel, promote development of well-formed stools, and aid in the removal of bacterial toxins and irritants.



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Usable calcium—Recent evidence points to a new rationale of prenatal nutrition. ". . . it is apparent that dicalcium phosphate, so widely used as a dietary supplement in pregnancy, is undesirable."^a Calcisalin, for routine prenatal supplementation, provides calcium in the *usable* form of the lactate salt, rather than phosphate.

The complete prenatal supplement—Calcisalin also provides reactive aluminum hydroxide gel (to absorb excess dietary phosphorus) and the minimum daily vitamin and iron allowances for pregnancy as recommended by the National Research Council.

Thus the risk of inadvertently raising the phosphorus level to the point where it interferes with calcium absorption is avoided with Calcisalin.

Dosage: Two tablets three times daily after meals. **Available:** Bottles of 100 tablets and 8-oz. reusable nursing bottles containing 300 tablets.

^aPage, E. W., and Page, E. P.: *Obstet. & Gynec.*, 1:94 (Jan.) 1953.

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chronic infectious dermatitis

In this skin disorder
and many more

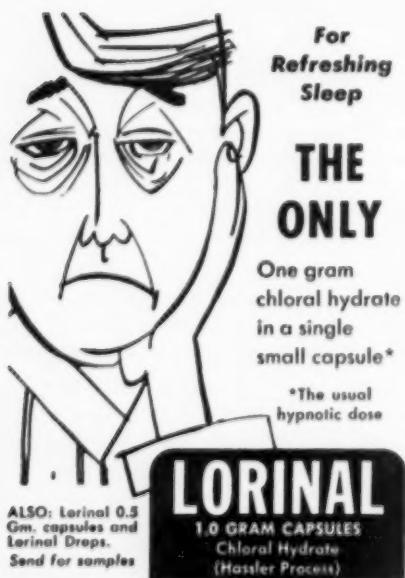
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antibacterial
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SUPPLIED: Vioform-Hydrocortisone Cream, containing Iodochlorhydroxyquin U.S.P. 3% and hydrocortisone (free alcohol) U.S.P. 1% in a water-washable base; tubes of 5 and 20 Gm.

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ARNAR-STONE LABORATORIES, INC.
Mount Prospect, Illinois

NEWS AND NOTES

—Concluded from page 18a

Veterans of Foreign Wars. Under direction of a committee headed by Dr. Sidney Raffel, chairman of the Medical Microbiology Department, the radio-isotope equipment will serve all departments of the Medical School.

The Cancer Chemotherapy Laboratory is located in newly created space in the basement of the Anatomy Building, adjacent to the site of Stanford's future medical center. It contains approximately 4,000 square feet divided into three offices, seven laboratories, an animal room, and several small special purpose rooms.

An additional grant of \$68,000 from the National Cancer Institute is supporting research for the first year.

Under Dr. Goldstein's direction, one group is tackling the problem of why cancer cells develop resistance to anti-cancer drugs. This work includes fundamental research in the biochemistry of cells to determine what cell changes may be responsible.

The second approach is a search for new and more potent anti-cancer drugs being conducted by Professor Arthur Furst. New drugs are being synthesized from promising compounds by chemical manipulation of their molecular structure.

Considerable other research in this field, as well as the regular teaching program, are continuing at the Medical School in San Francisco.

BUY
U.S. SAVINGS BONDS

MEDICAL TIMES



Tastiest way to dissolve sore throat symptoms

TROCHES
'HYDROZETS'

(HYDROCORTISONE-BACITRACIN-TYROTHRICIN
NEOMYCIN-BENZOCAINE TROCHES)

Adult or juvenile, your patients with sore throats will welcome a course of HYDROZETS. These newest Merck Sharp & Dohme troches offer anti-inflammatory, anti-infective and analgesic properties that promptly alleviate distressing mouth or throat irritation whether caused by infection, mechanical injury or allergic reaction. And HYDROZETS taste so good, it's hard to believe they're medicine.

Formula: Each HYDROZETS Troche contains—
2.5 mg. 'HYDROCORTONE' to reduce pain, heat and swelling; 50 units Zinc Bacitracin, 1 mg. Tyrothricin and 5 mg. Neomycin Sulfate to combat gram-positive and gram-negative bacteria; and 5 mg. Benzocaine for rapid soothing analgesia.
Other indications: As adjunct therapy in aphthous ulcers, acute and chronic gingivitis and Vincent's infection.

Supplied: Vials of 12 troches.



MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC. PHILADELPHIA 1, PA.



MACNEILY

"Oh, Mrs. Murphy . . . your crutch"

Direct, fast relief of **i** and pain: **Bentyl**

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Relieves the **i** pain where it hurts: the gut

2 caps t.i.d.

Hartin, J. H.; Levy, J. S., and Beagley, L. South. M. J. 47:1190, 1954

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(Vol. 85, No. 2) February 1957

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eczema**
in this skin disorder
and many more

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antibacterial
antifungal
anti-inflammatory
antipruritic

SUPPLIED: Vioform Hydrocortisone Cream,
containing iodochlorhydroxyquin U.S.P. 3%
and hydrocortisone (free alcohol) U.S.P. 1%
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LITERATURE ON REQUEST

1. Livingston, S., and Petersen, D.: New England J. Med. 254:327 (Feb. 16) 1956.
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